NPWS

Magherabeg Dunes SAC
(site code: 001766)

Conservation objectives supporting document- Coastal habitats

Version 1

March 2017

Contents

Please note that the opinions expressed in the site reports from the Coastal Monitoring Project (CMP) are those of the authors and do not necessarily reflect the opinion or policy of NPWS.

Please note that this document should be read in conjunction with the following report: NPWS (2017) Conservation Objectives: Magherabeg Dunes SAC 001766. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

1 Introduction

Achieving Favourable Conservation Status (FCS) is the overall objective to be reached for all Annex I habitat types and Annex II species of European Community interest listed in the Habitats Directive 92/43/EEC (European Commission, 2013). It is defined in positive terms, such that a habitat type or species must be prospering and have good prospects of continuing to do so.

Despite its small size, Magherabeg Dunes SAC is of conservation importance because it has a well-developed flora and a dynamic sand dune system that is relatively intact due to low levels of disturbance and recreational pressure. Most of the developmental stages are supported, with embryonic dunes, mobile dunes (white dunes) and fixed dunes all represented (NPWS, 2013).

Magherabeg Dunes SAC consists of two adjacent sand dune systems, Magheramore and Magherabeg, which are situated on either side of Ardmore Point, 5km south of Wicklow Head in Co. Wicklow. Magheramore, which extends approximately 0.6km to the north of Ardmore Point, is small and almost totally devoid of sand dune habitats, with just an occasional small clump of foredune grasses in front of a steep scrub-dominated slope. Magherabeg however, which extends 1.5km to the south of Ardmore Head, has a range of intact sand dune habitats, including fixed dunes. The adjacent drift banks are covered by deciduous woodland and dense scrub (Ryle *et al*., 2009).

The Three Mile Water River flows through the dunes at Magherabeg, where it cuts a wide channel (about 5m wide) through the strand and enters the sea. The course of the river through the strand is known to change from year to year. The river provides habitat for wetland species such as sedges, including bladder sedge (*Carex vesicaria*), fox sedge (*C. otrubae*) and grey sedge (*C. divulsa*). The Near Threatened (Wyse Jackson *et al*., 2016) Moore's horsetail (*Equisetum* x *moorei*), which is listed on the Flora (Protection) Order, 2015 (Statutory Instrument No. 356 of 2015), occurs here. The site is the only known Irish station for the very rare hybrid sedge *Carex* x *grossii* (*Carex vesicaria* x *hirta*) (Ryle *et al*., 2009).

The SAC is also notable for the presence of a priority status Annex I habitat: *Petrifying springs with tufa formation*, which supports a range of specialised moss species, is found below the cliffs at Ardmore Point and is a good example of this habitat in a coastal setting. Also on the cliffs at Ardmore Point are patches of coastal grassland with a good diversity of species. Sharp rush (*Juncus acutus*) is present at what is one of its most northerly locations in the country (Ryle *et al*., 2009).

Magherabeg Dunes SAC (site code: 001766) is selected for sand dune habitats and petrifying springs. The following five coastal habitats are included in the list of Qualifying Interests for the SAC (* denotes a priority habitat):

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)*
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)*

All of these habitats are associated with sand dune systems and are usually found in close association with each other. It should be noted that the status of the last habitat, Atlantic decalcified

fixed dunes (Calluno-Ulicetea)*, in Ireland is under review and that the conservation objective may be reviewed at a later stage.

2 Conservation Objectives

A conservation objective aims to define the favourable conservation condition of a habitat or species at a particular site. Implementation of the objective will help to ensure that the habitat or species achieves favourable conservation status at a national level.

This supporting document sets out the conservation objectives for the five coastal habitats listed above in Magherabeg Dunes SAC, which are defined by a list of parameters, attributes and targets. The main parameters are (a) Range (b) Area and (c) Structure and Functions, the last of which is broken down into a number of attributes, including physical structure, vegetation structure and vegetation composition.

The targets set for the sand dune habitats are based primarily on the results of the Coastal Monitoring Project (Ryle *et al*., 2009) and this document should be read in conjunction with that report.

The Coastal Monitoring Project (CMP) surveyed, mapped and assessed two sub-sites associated with Magherabeg Dunes SAC (Ryle *et al*., 2009):

1. Magherabeg (CMP site ID: 016)
2. Magheramore (CMP site ID: 015)

The distribution of sand dune habitats within Magherabeg Dunes SAC is presented in Appendix I. As part of the CMP, detailed individual reports and habitat maps were produced for the two sub-sites, Magherabeg and Magheramore, and these are presented at the end of this document in Appendix II and Appendix III respectively.

The conservation objectives for the sand dune habitats in Magherabeg Dunes SAC are based on the findings of the reports from the CMP, combined with the results of Gaynor (2008). It is thought that the two sub-sites as surveyed by the CMP represent the total area of sand dunes within Magherabeg Dunes SAC.

3 Sand dune habitats

Sand dunes are hills of wind-blown sand that have become progressively more stabilised by a cover of vegetation. In general, most sites display a progression through strandline, foredunes, mobile dunes and fixed dunes. Where the sandy substrate is decalcified, fixed dunes may give way to dune heath. Wet hollows, or dune slacks, occur where the dunes have been eroded down to the level of the water table. Transitional communities can occur between dune habitats and they may also form mosaics with each other. Dune systems are in a constant state of change and maintaining this natural dynamism is essential to ensure that all of the habitats present at a site achieve favourable conservation condition.

In Ireland, there are nine sand dune habitats (including annual vegetation of drift lines) listed under Annex I of the EU Habitats Directive (92/43/EEC) (* denotes a priority habitat):

- **Annual vegetation of drift lines (1210)**
- **Embryonic shifting dunes (2110)**
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120)**
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130) ***
- Decalcified dunes with *Empetrum nigrum* (2140) *
- **Atlantic decalcified fixed dune (Calluno-Ulicetea) (2150) ***
- Dunes with *Salix repens* subsp. *argentea* (Salicion arenariae) (2170)
- Humid dune slacks (2190)
- Machairs (21A0) *

The five dune habitats indicated in **bold** above are listed as Qualifying Interests for Magherabeg Dunes SAC and were recorded during the CMP by Ryle *et al*. (2009) from the SAC. These habitats include mobile areas at the front as well as more stabilised parts of dune systems. There is some doubt concerning the presence of the habitat 'Atlantic decalcified fixed dunes'. The status of this habitat in Ireland is under review.

Annual vegetation of drift lines is found on beaches along the high tide mark, where tidal litter accumulates. It is dominated by a small number of annual species (i.e. plants that complete their life-cycle within a single season). Tidal litter contains the remains of marine algal and faunal material, as well as a quantity of seeds. Decaying detritus in the tidal litter releases nutrients into what would otherwise be a nutrient-poor environment. The habitat is often represented as patchy, fragmented stands of vegetation that are short-lived and subject to frequent re-working of the sediment. The vegetation is limited to a small number of highly specialised species that are capable of coping with salinity, wind exposure, an unstable substrate and lack of soil moisture. Typical species include spear-leaved orache (*Atriplex prostrata*), frosted orache (*A. laciniata*), sea rocket (*Cakile maritima*), sea sandwort (*Honckenya peploides*) and prickly saltwort (*Salsola kali*).

Embryonic dunes are low accumulations of sand that form above the strandline. They are sometimes referred to as foredunes, pioneer dunes or embryo dunes, as they can represent the primary stage of dune formation. They are characterised by the presence of the salt-tolerant dune grasses sand couch (*Elytrigia juncea*) and lyme-grass (*Leymus arenarius*), which act as an impediment to airborne sand. Strandline species can remain a persistent element of the vegetation.

Where sand accumulation is more rapid than in the embryonic dunes, marram grass (*Ammophila arenaria*) invades, initiating the transition to mobile dunes (Shifting dunes along the shoreline with *Ammophila arenaria*). Marram growth is actively stimulated by sand accumulation. These unstable and mobile areas are sometimes referred to as 'yellow dunes' (or 'white dunes' in some European countries), owing to the areas of bare sand visible between the tussocks of marram.

Fixed dunes refer to the more stabilised area of dune systems, generally located in the shelter of the mobile dune ridges, where the wind speed is reduced and the vegetation is removed from the influence of tidal inundation and salt spray. This leads to the development of a more or less closed or 'fixed' carpet of vegetation dominated by a range of sand-binding species (Gaynor, 2008).

Atlantic decalcified fixed dune (Calluno-Ulicetea) (dune heath) occurs at the older landward edge of the fixed dunes, where leaching of basic minerals and nutrients can lower the pH over time, or where sand has blown up over rock that is siliceous (silica-rich) in nature, and conditions suitable for colonisation by heath species are created. As these decalcified or acidic conditions can only form on the older, landward extremes of dune systems, they are often vulnerable to housing or other developments. Decalcified dune heath is characterised by the presence of heathers (*Calluna vulgaris, Erica tetralix, E*. *cinerea*) and gorse species (*Ulex europaeus* and *U*. *gallii*) which differentiates it from the other dune heath habitat, decalcified *Empetrum nigrum* dunes. Well-developed dune heath communities containing the classic dwarf ericoid shrubs, such as heathers, that are generally regarded as characterising the habitat are not well-represented in Ireland.

All of the dune habitats indicated above occur as a complex mosaic of constantly changing and evolving vegetation communities. They are inextricably linked in terms of their ecological functioning and should be regarded as single geomorphological units. As such, no dune habitat should be considered in isolation from the other dune habitats present at a site, or the adjoining semi-natural habitats with which they often form important transitional communities.

Detailed descriptions from the Coastal Monitoring Project (Ryle *et al*., 2009) of each sand dune habitat found at the Magherabeg and Magheramore sub-sites are presented in Appendices II and III. A total of 11.52ha of sand dune habitat was mapped within the Magherabeg Dunes SAC, all of which represents habitats that are listed as Qualifying Interests for this particular SAC.

3.1 Overall objectives

The overall objective for 'Annual vegetation of drift lines' in Magherabeg Dunes SAC is to '*maintain the favourable conservation condition*'.

The overall objective for 'Embryonic shifting dunes' in Magherabeg Dunes SAC is to '*maintain the favourable conservation condition*'.

The overall objective for 'Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)' in Magherabeg Dunes SAC is to '*maintain the favourable conservation condition*'.

The overall objective for 'Fixed coastal dunes with herbaceous vegetation (grey dunes)' in Magherabeg Dunes SAC is *to 'restore the favourable conservation condition*'.

While acknowledging that the habitat may be poorly developed in this SAC, the overall objective for 'Atlantic decalcified fixed dune (Calluno-Ulicetea)' in Magherabeg Dunes SAC is to *'maintain the favourable conservation condition*'.

These objectives are based on an assessment of the recorded condition of each habitat under a range of attributes and targets. The assessment is divided into three main headings: (a) Area (b) Range and (c) Structure and Functions.

3.2 Area

3.2.1 Habitat area

Habitat extent is a basic attribute to be assessed when determining the condition of a particular habitat. Baseline habitat maps were produced for the sand dune habitats in the Magherabeg and Magheramore sub-sites during the Coastal Monitoring Project (Ryle *et al*., 2009). These maps are included with the individual site reports in Appendices II and III at the end of this document.

The total areas of each sand dune habitat within the sub-sites Magherabeg (site ID: 016) and Magheramore (site ID: 015) as estimated by Ryle *et al*. (2009) are presented in the second and third columns of the following table. These figures were subsequently checked and adjusted to take into account any mapping anomalies. The adjusted figures for the total areas of each sand dune habitat within the boundary of Magherabeg Dunes SAC are presented in the fourth and fifth columns.

Habitat	**Total area (ha) of habitat from CMP**		**Total area (ha) of habitat within SAC boundary**		**Total area (ha) with SAC boundary**
	Magherabeg	**Magheramore**	**Magherabeg**	**Magheramore**	
Annual vegetation of drift lines (1210)	0.03	0.04	0.03	0.04	0.07
Embryonic shifting dunes (2110)	1.66	0.00	1.71	0.00	1.71
Shifting dunes along the shoreline with *Ammophila arenaria* (2120)	1.84	0.01	1.80	0.01	1.81
Fixed coastal dunes with herbaceous vegetation (2130)*	7.95	0.00	7.93	0.00	7.93
Decalcified dune heath (2150)*	Not mapped	Not mapped	Unknown	Unknown	Unknown
Totals	**11.48**	**0.05**	**11.47**	**0.05**	**11.52**
Grand Total	**11.53**		**11.52**		

The general target for this attribute in the case of each habitat is that the area should be stable, or increasing. Bearing in mind that coastal systems are naturally dynamic and subject to change, this target is always assessed subject to natural processes, including erosion and succession.

3.3 Range

3.3.1 Habitat distribution

The distribution of sand dune habitats in Magherabeg Dunes SAC, as mapped by Ryle *et al*. (2009), is presented in Appendix I.

At both Magherabeg and Magheramore, very little annual vegetation of drift lines was recorded along the strandline. The recent natural redirection of the river across the strand at Magherabeg was through an area most associated with drift line vegetation in the past. A single clump of annual strandline vegetation at the southern extreme of Magherabeg accounts for the mapped area of 0.03ha and a further 0.04ha was recorded at Magheramore (Ryle *et al*., 2009).

At Magherabeg, embryonic dunes are located beyond the drift line in the southern part of the site. The embryonic dunes consist of a continuous strip, up to 20m wide, along the seaward edge of the dunes (Ryle *et al*., 2009).

Mobile dunes at Magherabeg form a continuous strip in excess of 10m wide, apart from the 250m stretch where the Three Mile Water River channel cuts through the strand. The total area mapped at Magherabeg consisted of 1.80ha. At Magheramore, a patch of marram grass (*Ammophila arenaria*) of only 0.01ha is considered to be mobile dune and with such a limited extent and backed by a steeply sloping cliff, it is unlikely to develop further (Ryle *et al*., 2009).

Fixed coastal dunes occur in a band along the length of the southern portion of the SAC (Ryle *et al*., 2009).

Of particular interest in the SAC is the possible existence of patches of decalcified dune heath, a priority Annex I habitat, on the inland side of the fixed dunes at Magherabeg. This habitat is normally characterised by the presence of ericoid or heath species in association with dune species. Although ericoid species are absent, the presence of gorse (*Ulex europaeus*) is seen as an indicator of the acidic nature of the substrate. The status of this habitat in Ireland is currently under review.

The target is that there should be no decline or change in the distribution of these sand dune habitats, unless it is the result of natural processes, including erosion, accretion and succession.

3.4 Structure and Functions

The location, character and dynamic behaviour of sand dunes are governed by a combination of geographic, climatic, edaphic and anthropogenic factors. Sand dunes are highly complex, dynamic systems, where the habitats occur in a complex and constantly evolving and changing mosaic. They function as systems in terms of geomorphology and hydrology and maintaining the favourable

conservation condition of the habitats present depends on allowing these processes to continue unhindered. Maintaining the favourable conservation condition of all of the sand dune habitats in Magherabeg Dunes SAC in terms of structure and functions depends on a range of attributes for which targets have been set as outlined below.

3.4.1 Physical structure: functionality and sediment supply

Coastlines naturally undergo a constant cycle of erosion and accretion. There are two main causes of erosion: (a) those resulting from natural causes and (b) those resulting from human interference. Natural causes include the continual tendency towards a state of equilibrium between coasts and environmental forces, climatic change (particularly an increase in the frequency of storms or a shift in storm tracks), relative sea level rise and natural changes in the sediment supply. Human interference is usually associated with changes in the sediment budget, either directly, through the removal of beach or inshore sediment, or indirectly, by impeding or altering sediment movement. It is important to recognise that the process of coastal erosion is part of a natural tendency towards equilibrium. Natural shorelines attempt to absorb the energy entering the coastal zone by redistributing sediment.

Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Sediment supply is especially important in the embryonic dunes and mobile dunes, as well as the strandline communities where accumulation of organic matter in tidal litter is essential for trapping sand and initiating dune formation. The construction of physical barriers such as sea defences can interrupt longshore drift, leading to beach starvation and increased rates of erosion. Sediment circulation and erosion also has a role to play in the more stabilised dune habitats. Cycles of erosion and stabilisation are part of a naturally functioning dune system, where the creation of new bare areas allows pioneer species and vegetation communities to develop, thus increasing biodiversity. The construction of physical barriers can interfere with the sediment circulation by cutting the dunes off from the beach resulting in fossilisation or over-stabilisation of dunes.

Although Magherabeg is not subjected to heavy recreational pressures, natural erosion has affected significant areas of habitat in recent times (Ryle *et al*., 2009).

In places, the dunes reach substantial heights, although these areas are affected by erosion. The dunes at the southern end of Magherabeg have suffered considerable natural erosion in recent years, with effects extending into the mobile dunes. The taller dunes have been reduced in height and this natural erosion has also led to the expansion of blowouts and erosion of the seaward side of dune ridges in recent times (Ryle *et al*., 2009).

However, there has also been some build-up of foredunes, characterised by marram (*Ammophila arenaria*) and sand couch (*Elytrigia juncea*) in the more severely eroded areas. This is probably attributable to the local recycling of sediment from eroded dunes and may prove to be transitory in nature (Ryle *et al*., 2009).

The target for this attribute is to maintain the natural circulation of sediment and organic matter throughout the entire dune system, without any physical obstructions.

3.4.2 Vegetation structure: zonation

The range of vegetation zones on a dune system should be maintained. Gaynor (2008) highlights the highly transitional nature of much of the vegetation; therefore, it is important that the transitional communities are also conserved, including those to saltmarsh communities.

Magherabeg Dunes SAC is important as a good example of an intact sand dune system which shows the various developmental stages of dunes. The embryonic dunes in the SAC occur in association with a good example of drift line vegetation. Stable fixed dunes are well-represented (NPWS, 2013).

Magherabeg Dunes SAC also illustrates an interesting transition between sand dunes and drift banks, which are wooded with native deciduous species. The presence of wetlands in the SAC is of additional interest (NPWS, 2005).

The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes, including erosion and succession.

3.4.3 Vegetation structure: bare ground

This target applies to the fixed dunes and dune heath. It does not apply to the other habitats present where high levels of bare sand are a natural component of the habitat. In the fixed areas, some degree of instability is vital. Constant cycles of erosion and stabilisation provide the necessary conditions for the establishment of pioneer species and species that favour open conditions including invertebrates, helping to increase biodiversity.

At Magherabeg Dunes SAC, there is a low level of human recreational and agricultural use in comparison to the land use generally experienced in similar sites on the east coast. Some path erosion from trampling is evident, but human-induced erosion and disturbance is limited by restricted access. As mentioned previously, natural erosion has led to the expansion of blowouts and erosion of the seaward side of dune ridges in recent times and bare ground exceeds 10% of the total fixed dune area (Ryle *et al*., 2009).

The target is not to exceed 10% bare sand. This target is assessed subject to natural processes.

3.4.4 Vegetation structure: sward height

This attribute applies to the fixed dunes and dune heath where a varied vegetation structure is important for maintaining species diversity and is particularly important for invertebrates and birds. The ecological benefits of moderate levels of grazing on dunes have been well-documented (Gaynor, 2008). Moderate grazing regimes lead to the development of a species-rich vegetation cover. The animals increase biodiversity by creating micro-habitats through their grazing, dunging and trampling activities. Grazing slows down successional processes and in some cases, reverses them, helping to achieve a diverse and dynamic landscape. The effects of trampling assist the internal movement of sand through the development of small-scale blowouts, while dunging can eutrophicate those dune habitats whose nutrient-poor status is crucial for the survival of certain vegetation types. Many species, from plants to invertebrates, benefit immensely from the open and diverse system created by a sustainable grazing regime. Many dune species are small in size and have relatively low competitive ability. Consequently, the maintenance of high species diversity on a

dune system is dependent on the existence of some control to limit the growth of rank coarse vegetation (Gaynor, 2008).

Areas of the fixed coastal dunes at Magherabeg Dunes SAC have been recorded as undergoing succession to rank grassland and low scrub, with subsequent loss of priority habitat and flora diversity. Scrub vegetation may be spreading where stock grazing has been discontinued. However, there is a good proportion of short turf throughout the fixed dunes. Rabbits are present at the site and probably contribute to the maintenance of short turf areas (Ryle *et al*., 2009).

The target for this attribute is to maintain structural variation within the sward.

3.4.5 Vegetation composition: plant health of dune grasses

This attribute applies to the embryonic dunes and the marram dunes, where blown sand is a natural feature. The health of the dune grasses (particularly *Ammophila arenaria* and *Elytrigia juncea*) are assessed by the plant parts above the ground (they should be green) and the presence of flowering heads. This gives a clear indication of the status of the supply of blown sand, which is required for these species to thrive.

The target for this attribute is that more than 95% of the dune grasses should be healthy.

3.4.6 Vegetation composition: typical species and sub-communities

Species diversity and plant distribution in dunes is strongly controlled by a range of factors, including mobility of the substrate, grazing intensities, moisture gradients, nutrient gradients and human disturbance. In the younger, more mobile dunes, marram (*Ammophila arenaria*) is common, while groundsel (*Senecio vulgaris*), sea rocket (*Cakile maritima*) and dandelion (*Taraxacum* sp.) are also present. The fixed, more stable dune vegetation includes lady's bedstraw (*Galium verum*), common bird's-foot trefoil (*Lotus corniculatus*), wild thyme (*Thymus polytrichus*), kidney vetch (*Anthyllis vulneraria*), wild pansy (*Viola tricolor*) and biting stonecrop (*Sedum acre*).

In Magherabeg Dunes SAC, the common strandline species sea rocket (*Cakile maritima*), sea sandwort (*Honckenya peploides*) and prickly saltwort (*Salsola kali*) were noted (Ryle *et al*., 2009).

The embryonic dunes at Magherabeg occur in association with a good example of drift line vegetation. Species present in the embryo dunes include typical species such as sand couch (*Elytrigia juncea*), marram (*Ammophila arenaria*), sea spurge (*Euphorbia paralias*) and sea sandwort (*Honkenya peploides*) (Ryle *et al*., 2009; NPWS, 2013). Sea holly (*Eryngium maritimum*) is also present (Ryle *et al*., 2009).

The mobile dunes habitat was characterised by typical mobile dune species marram grass (*Ammophila arenaria*) and sea spurge (*Euphorbia paralias*) (Ryle *et al*., 2009).

The SAC has a good proportion of short turf grassland with a reasonably diverse fixed dune flora, including typical species such as lady's bedstraw (*Galium verum*), common bird's-foot trefoil (*Lotus corniculatus*), common restharrow (*Ononis repens*), wild carrot (*Daucus carota*), wild thyme (*Thymus polytrichus*) and kidney vetch (*Anthyllis vulneraria*) (Ryle *et al*., 2009). The presence of certain species, including spindle (*Euonymus europaeus*), indicates high calcium content in the sand substrate (NPWS, 2005).

In the area classified as dune heath habitat, bracken (*Pteridium aquilinum*) and burnet rose (*Rosa spinosissima*) were common, but there was also some marram grass (*Ammophila arenaria*) and other typical sand dune species (Ryle *et al*., 2009).

The target for this attribute is to maintain a typical flora for the particular sand dune habitat.

3.4.7 Vegetation composition: negative indicator species

Negative indicators include non-native species (e.g. *Hippophae rhamnoides*), species indicative of changes in nutrient status (e.g. *Urtica dioica*) and species not considered characteristic of the habitat. Sea buckthorn (*Hippophae rhamnoides*) should be absent or effectively controlled.

The main invasive species identified in Gaynor (2008) were bracken (*Pteridium aquilinum*) and sea buckthorn. The invasion of non-native species compromises the typical plant community structure. Bracken is becoming increasingly dominant, particularly where sites have been abandoned or where grazing levels have been significantly reduced. The vegetation retains many elements of the original vegetation cover, but there is a reduction in biodiversity. As the canopy becomes taller and ranker, many of the low-growing species disappear. In this case, the vegetation is treated as a sub-community of the original community that was invaded. This is always the case unless the original vegetation cover has been completely destroyed, as can happen with sea buckthorn, which can form dense impenetrable thickets.

Negative indicator species found throughout the fixed dunes at Magherabeg include common ragwort (*Senecio jacobaea*), creeping thistle (*Cirsium arvense*), common nettle (*Urtica dioica*) and perennial rye-grass (*Lolium perenne*), although none of these species were present to a significant extent at the time of survey (Ryle *et al*., 2009).

The target is that negative indicators (including non-native species), such as sea buckthorn, should represent less than 5% of the vegetation cover.

3.4.8 Vegetation composition: scrub/trees

This attribute only applies to the fixed dunes and dune heath. Scrub encroachment leads to reduction in dune biodiversity and needs to be controlled. The presence of scrub and trees which have deep roots can also lower the groundwater table which can have significant impacts on the slack communities.

At Magherabeg, burnet rose (*Rosa spinosissima*) has been noted as invasive on the lower inland slopes of the fixed coastal dunes. This is thought to be due to a lack of grazing (NPWS, 2005).

The target for this attribute is that the cover of scrub and tree species should be under control or represent no more than 5% of the vegetation cover.

4 References

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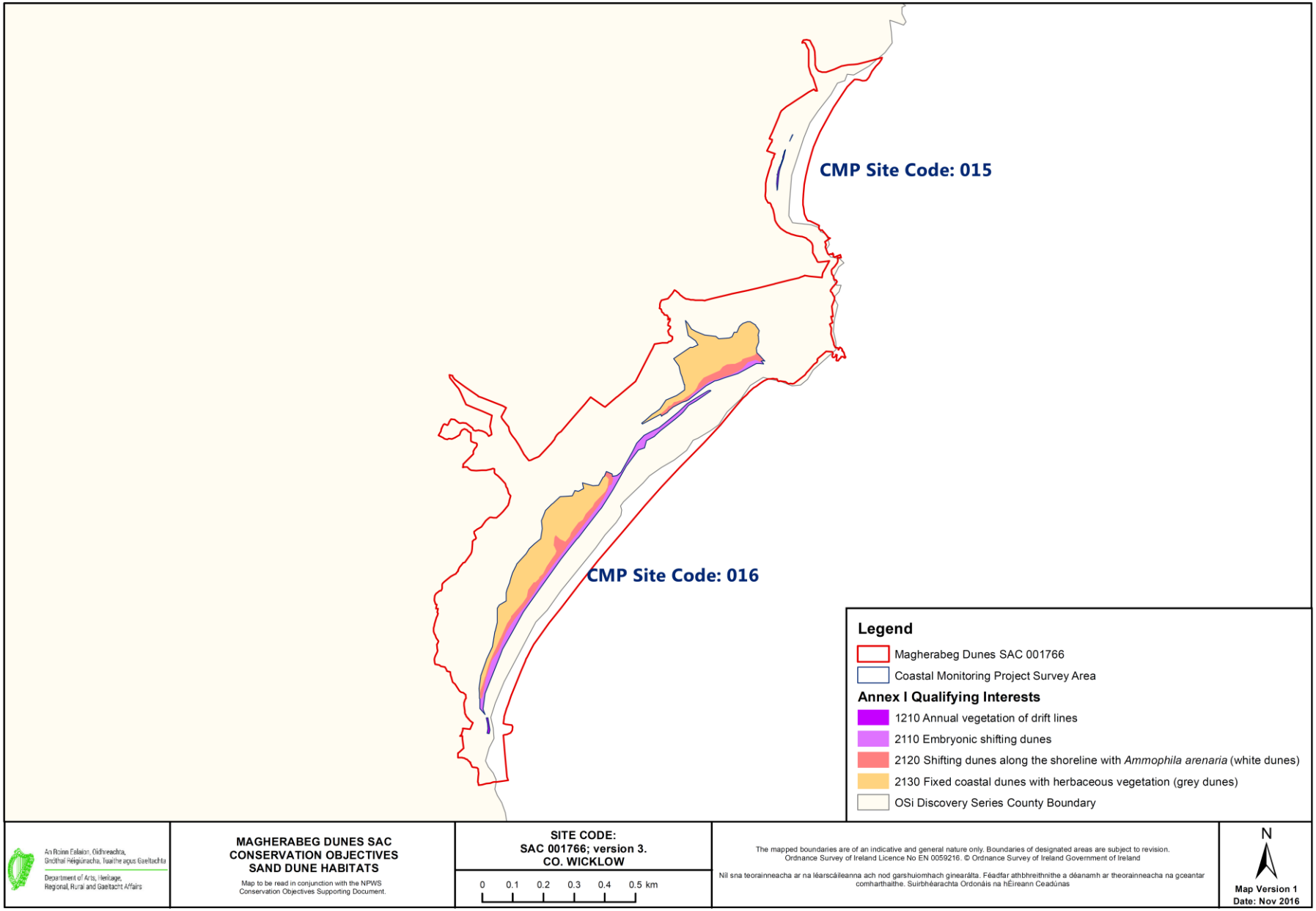
Appendix I – Distribution map of Sand dune habitats within Magherabeg Dunes SAC



Appendix II – Magherabeg site report and habitat map from the Coastal Monitoring Project (Ryle *et al.*, 2009)

MAGHERABEG

SITE DETAILS

CMP04 site names: Magherabeg **CMP04 site code:** 016 **CMP Map No.:** 15

County: Wicklow **Discovery map:** 62 **Grid Reference:** T 332 886 & T 325 875

6 inch Digital Photographs: WI 031 & 036

Aerial photographs (2000 series): O 4138-D; O 4139-C; O 4197-B; O 7044-A

NPWS Site Name: Magherabeg Dunes

NPWS designation: NHA: N/A **cSAC:** 001766

Ranger Area: Wicklow Mid

MPSU Plan: Draft 2 (New Format)

Report Author: Kieran Connolly

SITE DESCRIPTION

The adjacent sites of Magheramore and Magherabeg are situated approximately 5 km to the south of Wicklow head. Ardmore point marks the boundary between the sites, with Magheramore - approximately 0.6 km in length - to the north, and Magherabeg - over 1.5 km long - to the south. The sand dune systems form the greater part of a cSAC (Magherabeg Dunes cSAC 001766) that also includes woodland, scrub and river habitats. Magheramore is small and almost totally devoid of sand dune habitats, with just an occasional small clump of foredune grasses in front of a steep scrub-dominated slope. Magherabeg however, has a range of fairly intact sand dune habitats, including the priority EU Annex I habitats - fixed dune and dune heath. The fixed dunes are of considerable area, and support a well-developed typical dune flora. The sites have attractive sandy beaches and are extremely scenic. However, restricted public access (particularly at Magherabeg) relieves them, to some degree, of destructive amenity pressures.

Other habitats mapped at Magheramore were soft cliff vegetation and rocky cliff vegetation; while at Magherabeg, scrub, agricultural grassland, soft cliff vegetation, rocky cliff vegetation and forestry were recorded.

Table 16A Areas of EU Annex I habitats mapped at Magherabeg

EU Code	EU Habitat	Area (ha)
H1210	Annual vegetation of drift lines	0.029
H2110	Embryonic shifting dunes	1.655
H2120	Shifting dunes along the shoreline with *Ammophila arenaria*	1.841
H2130	Fixed coastal dunes with herbaceous vegetation	7.951
	Total Sand dune	**11.476**

In places, the dunes attain impressive heights, although these areas are among those most affected by recent erosion. The dunes at the southern end of Magherabeg have suffered considerable natural erosion in recent years, with damage extending well into the mobile dunes. The taller dunes, including the most striking - known locally as the 'Fairies' Ballroom' – have apparently been reduced in height over recent years as a result of erosion. A number of blowouts are now present in the dunes in this area. However, there has also been some build-up of foredunes, characterised by *Ammophila arenaria* (marram) and *Elytrigia juncea* (sand couch), in the more severely eroded areas, although these are probably attributable to the local recycling of sediment from eroded dunes and may prove to be transitory in nature.

Denser scrub to the rear of the site contains species such as *Crataegus monogyna* (hawthorn) and *Salix* spp. (willows), while large areas of deciduous woodland and scrub on drift banks lie behind the dunes. Clay banks on the cliffs at Ardmore Point have herbaceous communities with species such as *Eupatorium cannabinum* (hemp agrimony). The site is also notable for the existence of a priority status EU Annex I habitat - Petrifying springs with tufa formation - around the cliffs at Ardmore Point, which supports interesting lower plant communities. Also at the cliffs at Ardmore Point are patches of coastal grassland with a good diversity of species.

The Threemile Water River enters the sea through Magherabeg, where it cuts a wide channel (about 5 m) through the strand. The course of the river through the strand is known to change from year to year. The river provides habitat for wetland species such as *Equisetum* x *moorei* (Moore's horsetail), and the site is the only known Irish station for the very rare hybrid sedge *Carex* x *grossii* (*Carex vesicaria* x *hirta*), an important factor in the context of the site's SAC designation. The presence of *E.* x *moorei* was confirmed in the dunes during the site visit, while the latter named species was not sought, as it is unlikely to be found in sand dune habitats. Common reed, *Phragmites australis*, grows abundantly around the river, and also in small clumps in a few places on the strand. Otter and kingfisher are also known from the site. The presence of *Juncus acutus* (sharp rush), in what represents one of its most northerly locations in the country, was confirmed.

Fixed Dune (H2130)

The fixed dunes at Magherabeg extend in total to just under 8 ha. The site has a good proportion of short turf grassland with a reasonably diverse fixed dune flora, including typical species such as *Galium verum* (lady's bedstraw), *Lotus corniculatus* (common bird's-foot trefoil), *Ononis repens* (common restharrow), *Daucus carota* (wild carrot), *Thymus polytrichus* (wild thyme), and *Anthyllis vulneraria* (kidney vetch).

Negative indicator species found throughout the fixed dunes included *Senecio jacobaea* (common ragwort), *Cirsium arvense* (creeping thistle), *Urtica dioica* (common nettle) and *Lolium perenne* (perennial rye-grass), although none of these species were present, either individually or collectively, to a significant extent. To the rear of the dunes however, encroaching scrub characterised by species such as *Pteridium aquilinum* (bracken) and *Rubus fruticosus* (bramble), has become widespread, apparently due to the discontinuation of stock grazing in recent years. However, there is a good proportion of short turf throughout the fixed dunes, which may be at least partly attributable to the presence of rabbits at the site.

Although Magherabeg is not subjected to heavy recreational pressures, natural erosion has led to the expansion of blowouts and erosion of the seaward side of dune ridges in recent times and bare ground exceeds 10% of the total fixed dune area. Human-induced erosion and disturbance is apparently limited by restricted access to the site, although amenity use by locals may be significant, particularly in the summer months.

Dune Heath (H2150)

At the rear of the fixed dunes at Magherabeg, there are patches of vegetation, characterised by *Ulex europaeus* (gorse) that have previously been ascribed to dune heath habitat - in this case 'Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)' (2150). Also common in this area were *Pteridium aquilinum* (bracken) and *Rosa pimpinellifolia* (burnet rose). The NATURA 2000 form for the site lists this Annex I habitat as that with the greatest total cover, with 15%, or 20.1 ha, of the total estimated area of 74.64 ha. The total fixed dune area is estimated at only 10% of the total cSAC area. However, the potential dune heath habitat at Magherabeg, like those at several other potential dune heath sites, does not have any of the 'classic' ericoid species, by which the habitat is usually recognised. Confirmation of the appropriateness of the designation of this habitat as dune heath will probably await a dedicated survey of all known or potential Irish dune heaths, and may require a more thorough survey involving soil analysis, in addition to floristic and other studies.

Due to the difficulties in mapping such an ill-defined area of habitat, which occurs in a mosaic structure with fixed dunes, potential dune heath habitat was not mapped in this survey, nor was the conservation status of the habitat assessed. Should the presence of the habitat be confirmed by future studies, an updated conservation status assessment protocol and a method for mapping such mosaics should be employed, so that this nationally rare, priority Annex I habitat is comprehensively dealt with.

Annual vegetation of drift lines (H1210)

There was very little annual strandline habitat at the site, although the recent natural redirection of the river as it cuts through the strand at Magherabeg has been in the area most associated in previous reports with drift line vegetation. A single clump at the southern extreme of Magherabeg accounts for the mapped area of 0.029 ha. The common strandline species, *Cakile maritima* (sea rocket), *Honckenya peploides* (sea sandwort) and *Salsola kali* (prickly saltwort) were all noted.

Embryonic shifting dunes (H2110)

The embryonic dunes at Magherabeg consisted of a continuous strip, up to 20 m wide (although mostly less), along the entire seaward edge of the dunes. The total area mapped exceeded 1.5 ha.

The three monitoring stops carried out in the embryonic dunes at Magherabeg reflected the presence of the typical habitat species *Elytrigia juncea* (sand couch) and *Euphorbia paralias* (sea spurge). Sea rocket (*Cakile maritima*) was also common in the habitat.

Mobile dunes (H2120)

Mobile dunes at Magherabeg, with the exception of a 250 m stretch where the Threemile Water River channel cuts through the strand, form a continuous strip, mostly in excess of 10 m wide, along the

site. The habitat was characterised by the typical mobile dune species *Ammophila arenaria* (marram) and *Euphorbia paralias* (sea spurge).

IMPACTS

Activities observed or known to be impacting on sand dune habitats at Magherabeg are shown in Table 16B. Recreational use of the site is low, which may be largely attributable to the lack of easy public access. Some local landowners are also keen to discourage public access, and damage from amenity activities has certainly been limited by this situation. However, the attractiveness of the site will ensure some degree of usage.

There were fewer beach users at Magherabeg than at Magheramore on the survey date, reflecting the greater access difficulties, and the fact that transit between the sites requires passage around the moderately difficult terrain of Ardmore Point. There are however, a number of worn tracks, and these together with the exacerbation of blowouts and areas of natural erosion, may be attributable to pedestrian traffic and related activities (code 622).

Table 16B Intensity and impact of various activities on sand dune habitats at Magherabeg

EU Habitat Code[1]	Activity Code[2]	Intensity[3]	Impact[4]	Area affected/ha	Location of Activity[5]
2130	149	A	-1	2.5	Inside
2110	622	C	-1	1.655	Inside
2120	622	B	-1	1.0	Inside
2130	622	C	0	7.951	Inside
2120	900	A	-1	1.841	Inside

[1] EU Codes as per Interpretation manual. Code 21BB is an additional code used to signify the entire dune habitat.
[2] Description of activity codes are found in Appendix ?
[3] Intensity of the influence of an activity is rated as: A= high, B = medium, C = low influence and D = unknown.
[4] Impact is rated as: -2 = irreparable negative influence, -1 = repairable negative influence, 0 = neutral, +1 = natural positive influence and +2 = strongly managed positive influence
[5] Location of activity: Inside = activities recorded within and directly impacting the sand dune habitat. Outside = activities recorded outside but adjacent to sand dune habitat that are impacting the sand dune habitat

The system is relatively free of development pressures and it appears the local residents are eager to see the integrity of the system maintained. Much of the area is in multiple- private-ownership. Scrub vegetation may be spreading at the landward edge of the fixed dunes where stock grazing has been discontinued (code 149). Rabbits are present at the site and probably contribute to the maintenance of short turf areas.

Natural erosion has affected significant areas of habitat in recent times (code 900).

CONSERVATION STATUS

The overall conservation status assessment of each habitat at Magherabeg is based on a combination of *Habitat Extent*, *Structure & Functions*, and *Future Prospects* assessments (Table 16C). The structure and functions assessment is based on the pass/failure rates of monitoring stops, which are shown in Table 16D.

There is a difficulty in using the NATURA 2000 survey for the purposes of comparing previous site condition information with data from the current survey, in that Magherabeg and Magheramore are treated as a single entity in that report, with the result that information on the habitats that are common to both sites – Annual vegetation of drift lines (strandline) and Shifting dunes along the shoreline with *Ammophila arenaria* (mobile dunes) – cannot be reliably interpreted. Assessments of conservation status of these habitats are therefore based on their current condition. Information on fixed dunes and embryonic dunes in the NATURA 2000 survey report is assumed to refer solely to Magherabeg.

Magherabeg is a fine example of a largely intact dune system, with a well-developed flora and range of habitats. Among the habitats are the priority Annex I fixed dunes and habitat that may prove to be referable to the nationally scarce dune heath. Encroachment of scrub needs to be addressed, as grazing has been discontinued in recent years. No other significant pressures to which the site may be vulnerable were identified. Natural erosion has adversely affected parts of the sites, and the degree to which they recover or continue to deteriorate will be revealed by future monitoring.

Table 16C Conservation status assessment of Annex I sand dune habitats at Magherabeg

Habitat[1]	**EU Conservation Status Assessment**			**Overall EU conservation status assessment**	**Proposed Irish conservation status system**[2]
	Favourable	**Unfavourable - Inadequate**	**Unfavourable - Bad**		
Fixed Dune (H2130)	Extent	Future prospects	Structure & functions	**Unfavourable - Bad**	Unfavourable - declining
Mobile Dune (H2110)	Extent/ Structure & functions	Future prospects		**Unfavourable - Inadequate**	Unfavourable - unchanged
Embryonic Dune (H1210)	Extent/ Structure & functions	Future prospects		**Unfavourable - Inadequate**	Unfavourable - unchanged
Annual Strandline (H1210)	Extent/ Structure & functions/ Future prospects			**Favourable**	Favourable-Maintained

[1] EU Codes as per Interpretation Manual
[2] Ratings are Favourable (Enhanced, Maintained, Recovered, Declining), Unfavourable (Recovering, Unchanged, Declining) and Destroyed (Partially destroyed, Completely destroyed and Unknown)

Each habitat of relevance to the current study, including dune heath, was given a conservation status rating of 'B - good conservation' in the NATURA 2000 survey. However, the grading criteria employed in that survey are not directly comparable to those used in the present study.

Table 16D Pass/Fail results of monitoring stops for Annex I sand dune habitats at Magherabeg

	Monitoring stops		
Habitat	**Pass**	**Fail**	**Conservation status**
Fixed dune (H2130)	3	5	**Unfavourable - Bad**
Mobile Dunes (H2120)	5	0	**Favourable**
Embryonic Dunes (H2110)	4	0	**Favourable**

Fixed Dune (H2130)

Extent (area) is rated as *favourable* as there are no indications of an actual loss of habitat, despite an apparent decline in condition in some parts of the habitat.

Of the eight monitoring stops carried out in the fixed dunes, only three passed the overall target criteria, indicating *unfavourable-bad* structure and functions. The absence of stock grazing, resulting in the spread of scrub species, the prevalence of long rank swards and a consequent lack of species diversity is the main reason for the current poor habitat condition.

As the fixed dune condition appears to be declining from the unchecked spread of scrub species and *Pteridium aquilinum* (bracken), and a reduction in species diversity from the development of long ungrazed swards, future prospects are not positive. However, as the site is probably not in severe decline, and could improve quite rapidly under a land use regime that is sympathetic to the aims of conservation management, future prospects are rated as *unfavourable-inadequate* rather than *unfavourable-bad*.

As one of the parameters of conservation status (in this case structure and functions) is *unfavourable-bad*, the overall conservation status assessment is also *unfavourable-bad*.

As the fixed dunes appear to be current declining in condition due to scrub encroachment and undergrazing, the chosen assessment under the Irish system of assessment is *unfavourable-declining*.

Mobile Dunes (H2120)

As is the case with embryonic dunes at the site, extent is rated as *favourable* due to the intact zonation of habitat and because there are no indications of a recent loss of habitat.

All five monitoring stops carried out in the habitat passed the overall criteria, indicating *favourable* structure and functions.

Future prospects are considered *unfavourable–inadequate* as much of the habitat is on the front face of a steep slope that is beginning to show signs of eroding. Although there is currently a substantial area of mobile dunes, much of this may be due to the availability of locally re-worked sediment that originated from other eroded parts of the dunes. Overall, it appears the dunes are not actively accreting, and are under threat from erosion.

As the individual components of conservation status assessment are a combination of *favourable* and *unfavourable-inadequate* assessments, the overall assessment is *unfavourable-inadequate*.

The rating chosen under the Irish system of conservation status assessment is *unfavourable-unchanged*, as there are no clear indications of a recent change in the habitat condition.

Embryonic Dunes (H2110)

Due to the intact zonation of foredune habitats, and in the absence of any indication of a recent loss of area that may be attributed to human activities, habitat extent is considered *favourable*.

All four monitoring stops carried out in the habitat passed the overall criteria, indicating *favourable* structure and functions.

Although embryonic dunes are present and intact along almost the entire seaward edge of the dunes, much of the current habitat may owe its existence to the availability of locally recycled sediment, originating in recent erosion events. As the dunes are unlikely to be actively accreting and because of the apparent ongoing threat of erosion, future prospects are rated *unfavourable-inadequate*.

A combination of *favourable* and *unfavourable-inadequate* assessments for the individual parameters of conservation status assessment indicates an overall *unfavourable-inadequate* assessment.

The rating chosen under the Irish system of conservation status assessment is *unfavourable-unchanged*, as there are no clear indications of a recent change in the habitat condition.

Annual Vegetation of Drift lines (H1210)

In the absence of data on the recent trend of annual strandline extent at the site, the current presence of the habitat is sufficient to justify a *favourable* extent (area) rating.

As the area of habitat of strandline habitat was extremely limited, monitoring stops were not carried out in the assessment of structure & functions. However, the presence of some typical species and absence of negative indicator species was sufficient to determine a favourable assessment.

The availability of locally recycled sediment and the lack of overly intensive recreational pressures suggest that annual strandline habitat should continue to be a feature of the site. Future prospects are therefore rated as *favourable*.

As all three individual components of conservation status are *favourable*, the overall habitat conservation status assessment is also *favourable*.

The assessment thought most apt under the corresponding Irish conservation status system is *favourable-maintained*, as the current condition is likely to have existed for some time.

Coimisiún, Oidhreacht agus Rialtas Áitiúil
Environment, Heritage and Local Government
National Parks and Wildlife Service

Coastal Monitoring Project 2004-2006

Magherabeg

Magherabeg Dunes (SAC 1766)

CMP code: 016

This habitat map was created with a combination of fieldwork, GPS and interpretation of aerial photos. Boundaries of designated areas are subject to revision. Produced from Ordnance Survey material by permission of the Government (Permit number 5953)

0 100 200 300 400 500 Meters

Date of production: 25/11/2008
Map version: 1

Original Drawing Size: 297 x 420 (A3)
Scale 1:11883

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Appendix III – Magheramore site report and habitat map from the Coastal Monitoring Project (Ryle *et al.*, 2009)

MAGHERAMORE

SITE DETAILS

CMP04 site names: Magheramore **CMP04 site code:** 015 **CMP Map No.:** 98

County: Wicklow **Discovery map:** 62 **Grid Reference:** T 332 886 & T 325 875

6 inch Digital Photographs: WI 031

Aerial photographs (2000 series): O 4139-A & C

NPWS Site Name: Magherabeg Dunes

NPWS designation: NHA: N/A **cSAC:** 001766

Ranger Area: Wicklow Mid

MPSU Plan: Draft 2 (New Format)

Report Author: Kieran Connolly

SITE DESCRIPTION

The adjacent sites of Magheramore and Magherabeg (site 015 in the present report) are situated approximately 5 km to the south of Wicklow head. Ardmore point marks the boundary between the sites, with Magheramore - approximately 0.6 km in length - to the north, and Magherabeg - over 1.5 km long - to the south. The sand dune systems form the greater part of a cSAC that also includes woodland, scrub and river habitats. Magheramore is small and almost totally devoid of sand dune habitats, with just an occasional small clump of foredune grasses in front of a steep scrub-dominated slope. Magherabeg however, has a range of fairly intact sand dune habitats, including the priority EU Annex I habitats - fixed dune and dune heath. Both sites have attractive sandy beaches and are extremely scenic. However, restricted public access (particularly at Magherabeg) relieves them, to some degree, of destructive amenity pressures.

Clay banks on the cliffs at Ardmore Point have herbaceous communities with species such as *Eupatorium cannabinum* (hemp agrimony). The site is also notable for the existence of a priority status EU Annex I habitat - 'Petrifying springs with tufa formation' - around the cliffs at Ardmore Point, which supports interesting lower plant communities. Also at the cliffs at Ardmore Point are patches of coastal grassland with a good diversity of species.

Otter and kingfisher are known from the site, while *Juncus acutus* (sharp rush), is present in what represents one of its most northerly locations in the country.

The areas of EU Annex I habitats mapped at Magheramore are shown in Table 15A. The other habitats mapped at Magheramore were soft cliff vegetation and rocky cliff vegetation.

Table 15A Areas of EU Annex I habitats mapped at Magheramore

EU Code	EU Habitat	Area (ha)
H1210	Annual vegetation of drift lines	0.037
H2120	Shifting dunes along the shoreline with *Ammophila arenaria*	0.010
	Total Sand dune	**0.047**

Annual vegetation of drift lines (H1210)

There was very little strandline habitat at either Magherabeg or Magheramore. A single clump of annual strandline vegetation at the southern extreme of Magherabeg accounts for the mapped area of 0.029 ha. The common strandline species *Cakile maritima* (sea rocket), *Honckenya peploides* (sea sandwort) and *Salsola kali* (prickly saltwort) were noted.

Mobile dunes (H2120)

A patch of *Ammophila arenaria* of only 0.01 ha at Magheramore was mapped as mobile dune and is treated as such throughout the report, although at such a limited extent and being backed by a steeply sloping cliff, is unlikely to develop further.

IMPACTS

Activities observed or known to be impacting on sand dune habitats at Magheramore are shown in Table 15B. Recreational use of the site is lower than might be expected of such a scenic location in a populous area, which may be largely attributable to the lack of easy public access. Some local landowners are also keen to discourage access. However, the attractiveness of the site as a bathing location will ensure some degree of usage. Magheramore is apparently popular as a surfing location and on the survey date, there were a fair number of beach users in this area (code 622).

Table 15B Intensity and impact of various activities on sand dune habitats at Magheramore

EU Habitat Code[1]	Activity Code[2]	Intensity[3]	Impact[4]	Area affected/ha	Location of Activity[5]
1210	622	C	-1	0.037	Inside

[1] EU Codes as per Interpretation manual. Code 21BB is an additional code used to signify the entire dune habitat.
[2] Description of activity codes are found in Appendix ?
[3] Intensity of the influence of an activity is rated as: A= high, B = medium, C = low influence and D = unknown.
[4] Impact is rated as: -2 = irreparable negative influence, -1 = repairable negative influence, 0 = neutral, +1 = natural positive influence and +2 = strongly managed positive influence
[5] Location of activity: Inside = activities recorded within and directly impacting the sand dune habitat. Outside = activities recorded outside but adjacent to sand dune habitat that are impacting the sand dune habitat

The area affected by recreational activities is entered as the entire area of annual strandline habitat mapped at the site (Table 15B).

CONSERVATION STATUS

There is a difficulty in using the NATURA 2000 survey for the purposes of comparing previous site condition information with data from the current survey, in that Magherabeg and Magheramore are treated as a single entity in that report, with the result that information on the habitats that are common to both sites – Annual vegetation of drift lines (strandline) and Shifting dunes along the

shoreline with *Ammophila arenaria* (mobile dunes) – cannot be reliably interpreted. Assessments of conservation status of these habitats are therefore based on their current condition. However, as there is currently an almost total absence of sand dune habitat at Magheramore, and little likelihood of significant accumulation, comparison with recent reports is largely unnecessary.

Each habitat of relevance to the current study, including dune heath, was given a conservation status rating of 'B - good conservation' in the NATURA 2000 survey. However, the grading criteria employed in that survey are not directly comparable to those used in the present study. Information on fixed dunes and embryonic dunes in the NATURA 2000 survey report is assumed to refer solely to Magherabeg.

The habitat conservation status assessment for annual strandline is shown in Table 15C.

Annual Vegetation of Drift lines (H1210)

Based on the current extent of the habitat and the absence of any indication of a trend towards a decline in habitat area, extent is considered to be *favourable*.

As a number of typical species were present and there were no significant indicators of poor condition, structure and functions are also considered to be *favourable*.

The availability of a certain amount of sediment, albeit probably locally recycled material, will probably facilitate the continued presence over time of some annual strandline habitat. Future prospects may therefore be considered *favourable*.

As all three individual components of conservation status are *favourable*, the overall habitat conservation status assessment is also *favourable*. It should be noted however, that the continued presence of annual strandline habitat is largely irrelevant at such an inconsequential site. There is no realistic likelihood of any significant dune-building events in the near future.

The corresponding assessment thought most appropriate under the Irish system of conservation status assessment is *favourable-maintained*, reflecting a probable long-term trend of some amount of annual strandline habitat at the site.

Table 15C Conservation status assessment of Annex I sand dune habitats at Magheramore

Habitat[1]	**EU Conservation Status Assessment**				
	Favourable	**Unfavourable - Inadequate**	**Unfavourable - Bad**	**Overall EU conservation status assessment**	**Proposed Irish conservation status system**[2]
Annual Strandline (H1210)	Extent/ Structure & functions/ Future prospects			**Favourable**	Favourable-Maintained

[1] EU Codes as per Interpretation Manual
[2] Ratings are Favourable (Enhanced, Maintained, Recovered, Declining), Unfavourable (Recovering, Unchanged, Declining) and Destroyed (Partially destroyed, Completely destroyed and Unknown)

Mobile Dunes (H2120)

A patch of *Ammophila arenaria* (marram) of only 0.01 ha was mapped as mobile dune, although such a negligible area is scarcely worth considering as habitat. Therefore, and because there is no indication of a formerly larger area of foredunes at the site, it was deemed unnecessary to assign a conservation status assessment to the habitat.

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Environment, Heritage and Local Government
National Parks and Wildlife Service

Coastal Monitoring Project 2004-2006

Magheramore

Magherabeg Dunes (SAC 1766)

CMP code: 015

This habitat map was created with a combination of fieldwork, GPS and interpretation of aerial photos. Boundaries of designated areas are subject to revision. Produced from Ordnance Survey material by permission of the Government (Permit number 5953)

0 60 120 180 240 300 Meters

Date of production: 25/11/2008
Map version: 1

Original Drawing Size: 297 x 420 (A3)
Scale 1:6332

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