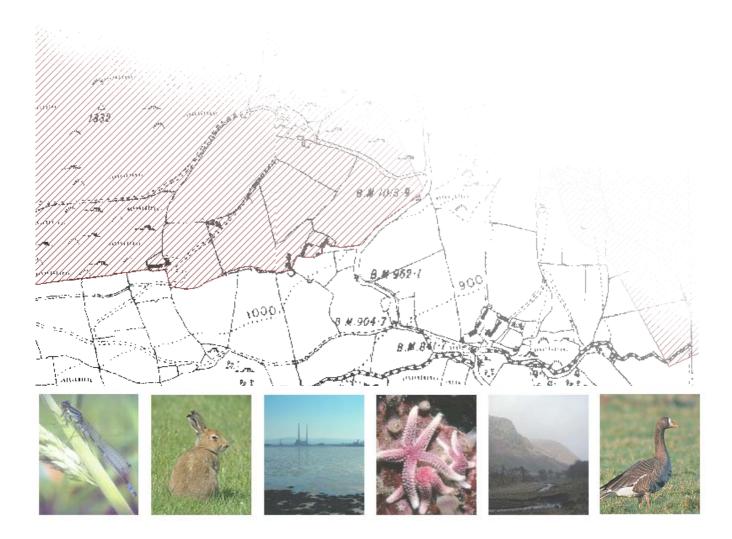




National Parks and Wildlife Conservation Plan for 2005-2010

Magherabeg Dunes cSAC

Site Code 1766 Co. Wicklow



SUMMARY

Site Description

Magherabeg Dunes candidate Special Area of Conservation (cSAC) is located approximately 5km south of Wicklow Head, on the east coast of Co. Wicklow. The site consists of a well-established and dynamic dune system, with various stages in the natural succession to woodland present. The site is bisected by the Three Mile Water. Three priority habitats listed on Annex I of the EU Habitats Directive occur within the site - fixed coastal dunes with herbaceous vegetation, Atlantic decalcified fixed dunes and petrifying springs with tufa formation. A further three other Annex I habitats listed on Annex I of the EU Habitats Directive also occur - embryonic shifting dunes, annual vegetation of drift lines and shifting dunes along the shoreline with *Ammophila arenaria*.

The rare Moore's Horsetail and a rare hybrid sedge (*Carex grossii/Carex vesicaria* x *hirta*) occur within the site. The Otter (an Annex II EU Habitats Directive species) and Kingfisher (an Annex I EU Birds Directive species are also known to occur.

Land Use

The site is in multiple private ownership and the owners are sympathetic to its conservation needs. There is a low level of human recreational and agricultural use in the site, which is unique in comparison to the land use experienced in similar communities on the east coast.

The removal of domestic stock from the dunes has led to succession to scrub and woodland over a substantial area of the dunes. While these are ecologically valuable habitats in their own right, this process is ongoing and will eventually cause a loss of fixed coastal dune habitat. Some erosion of fixed coastal dunes is occurring in the south of the site, also causing loss of priority habitat. Pollution of freshwater habitats may occasionally occur.

Main conservation issues

- Erosion by natural processes
- Succession to scrub and woodland
- Grazing at a sustainable level
- Water quality and pollution

Main management objectives

- To maintain and, where possible, enhance the ecological value of the priority habitats within the site fixed coastal dunes with herbaceous vegetation (grey dunes), Atlantic decalcified fixed dunes and petrifying springs with tufa formation
- To maintain and, where possible, enhance the ecological value of other habitats within the site
- To maintain and, where possible, increase populations of noteworthy species of plants
- To maintain effective liaison between the NPW, relevant authorities and interested parties on the management of the site

Main strategies to achieve objectives

- Reintroduce sustainable grazing to maintain existing habitats
- Maintain low levels of recreational use
- Monitor the ecological status of the habitats and noteworthy species present within the site
- Strive to maintain effective liaison between relevant stakeholders

ACKNOWLEDGEMENTS

Thanks to Ciara O'Mahony, the original plan facilitator for the site. Thanks also to the regional NPW staff for their assistance in the preparation of this plan.

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READER'S GUIDE

The Department of Environment, Heritage and Local Government (DEHLG), has produced this plan to provide ecological information about the site and to outline the main objectives for the conservation of the special features of the site.

The **Introduction** outlines the **policy background** to the site's designation and the relevant legislation.

The **Site description** contains **general information** on the site's boundaries, ownership and organisations involved. It also contains sections on the **physical aspects** of the site such as geology and hydrology as well as the **biological features**, in particular, the habitats and species found there. **Land use** and cultural features are also described.

The **Ecological Assessment** assesses the main ecological attributes of the site.

The **Objectives, Strategies and Zoning section** outlines the management necessary for the conservation of the site. It starts with a set of specific **conservation objectives.** These are followed by the main **management issues** that may impact on the conservation of the site and the **strategies** that will be used to achieve the objectives as outlined. In cases where more information is required, general strategies are usually applied. Where sufficient data and knowledge is available, specific management prescriptions are outlined for the timescale of the plan. In the final section, the site is divided into management **zones** to indicate where each strategy applies.

The appendices include a **glossary** where scientific and technical terms are explained, a list of **notifiable actions** relevant to each habitat within the site, and additional information on the site.

INTRODUCTION

Legal Background for Conservation Plans

The legal basis for selection and designation of **Special Areas of Conservation** (SACs) is the **EU Habitats Directive**, which was adopted in 1992. Focusing on the conservation of natural and seminatural habitats and species of flora and fauna, the Habitats Directive seeks to establish "Natura 2000", a network of protected areas throughout the European Community. The Habitats Directive includes a list of habitats that require SAC designation and specific conservation measures. This list is known as Annex I and the habitats are referred to as Annex I habitats. On this list, habitats that require special attention because they are in danger of disappearance, are termed 'priority habitats'. A second list, Annex II in the Habitats Directive comprises species that must be afforded special protection.

In Ireland, the habitats and species that must be afforded protection under the Habitats Directive include:

- 16 Annex I priority habitats that require particular attention including raised bogs, active blanket bogs, turloughs and machair,
- 45 other Annex I habitats such as certain types of heaths, lakes and woodlands,
- 25 Annex II species including Otter, Freshwater Pearl Mussel and Killarney Fern.

It is the responsibility of each member state to designate SACs to protect the Annex I habitats and Annex II species. These sites, together with the **Special Protection Areas** (SPAs) designated under the **EU Birds Directive** (1979), form the European "Natura 2000" network.

The Birds Directive contains annexes, which are lists of birds that require particular conservation measures (Annex I), and also species that may be hunted, and species that may be sold. There are 28 Annex I species regularly occurring in Ireland including Whooper Swan, Greenland White-fronted Goose, Peregrine Falcon, Corncrake and Terns. Member states are also required to protect sites that are important for migratory species such as ducks, geese and waders.

The Habitats Directive was transposed into Irish law through the **European Communities** (Natural Habitats) Regulations 1997. The Wildlife Act 1976 is the main statute governing the protection of wildlife in Ireland and was amended in 2000 to take account of European law, particularly the Habitats and Birds Directives. The Wildlife (Amendment) Act 2000 also makes legal provision for the designation and protection of a national network of Natural Heritage Areas (NHAs). Over 1,100 proposed NHAs were published in 1995 and almost 400 of these are also selected as candidate SACs.

The European Communities (Natural Habitats) Regulations 1997 include the following points:

The Minister for the Environment, Heritage and Local Government must transmit a candidate list of sites to the European Commission for consideration.

Following adoption of this list by the Commission, the Minister will formally designate the sites as SACs.

Sites are legally protected once they are publicly advertised.

Landowners and other users with a legal entitlement should be notified of designation, and the Minister must make all reasonable efforts to do so. Notification also includes a list of activities that may alter, damage, destroy or interfere with the integrity of the site. A person who illegally damages a site may be prosecuted or required to repair damage.

Landowners and other users with a legal entitlement may appeal the designation of lands on scientific grounds.

Landowners and other users with a legal entitlement will be compensated for actual loss of income arising from restrictions imposed as a result of designation.

DEHLG is the government department with responsibility for the designation and protection of wildlife habitats, species and areas of conservation interest. As part of their responsibility in relation to biodiversity and wildlife under the Wildlife Acts (1976 and 2000), the Minister's brief extends far beyond the habitats and species listed in the annexes of the Habitats and Birds Directives. For this reason, cSAC conservation plans may deal with species that are not mentioned in these annexes.

Reasons for Site Designation

The reason for the proposal to designate this site as a SAC is the presence of:

•	HABITATS LISTED IN ANNEX I OF Priority Habitat No. 2130 - *Fixed Coastal Dunes with Herbaceous Vegetation (grey dunes)	THE E.U. HABITATS DIRECTIVE The site supports a relatively intact and typical example of eastern fixed dunes. In addition, the *fixed coastal dunes are well developed and stable.
•	Priority Habitat No. 2150 - *Atlantic Decalcified Fixed Dunes (<i>Calluno-Ulicetea</i>)	This habitat type is very rare in Ireland and represents a fairly intact example of this community.
•	Priority Habitat No. 7220 - *Petrifying Springs with Tufa Formation (<i>Cratoneurion</i>)	The site supports a good example of *petrifying springs habitat in a coastal setting.
•	Habitat No. 2110 – Embryonic Shifting Dunes	The area of habitat on the site is a small but typical example of embryonic shifting dunes, which are experiencing active growth.
•	Habitat No. 2120 – Shifting Dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Represents a small, but typical, example of shifting shore dune habitat.
•	Habitat No. 1210 – Annual Vegetation of Drift Lines	The site supports annual drift line vegetation that is considered likely to be a typical example of this habitat.

* Indicates priority habitat in Annex I of the Habitats Directive

As part of his responsibility in relation to biodiversity and wildlife under the Wildlife Acts, the Minister's objective is to protect important habitats and species even though they may not appear in

the Annexes of the Habitats Directive. This may mean that they are included in SAC conservation plans.

General Conservation Objectives

Under Article 6 of the EU Habitats Directive, DEHLG is required to ensure the favourable conservation status of all Annex I habitats and Annex II species within cSACs. By preparing, implementing and reviewing this plan on a five year basis, DEHLG aims to achieve the objectives of the Habitats Directive in relation to this site. The general objectives DEHLG will apply to achieve this are:

- to maintain the Annex I habitats for which the cSAC is selected
- · to liaise with the landowners, relevant authorities and interested parties
- to increase the scientific knowledge of the site through further scientific research and development of monitoring programmes

Specific conservation objectives and strategies are outlined in the section, **Objectives, Strategies** and **Zoning**.

Implications for landowners and other site users

In most areas designated as cSACs, current practices will not have to change significantly.

In cases where users are required to change practices or restrict activities to protect the wildlife interest of the site, compensation will be payable based on actual loss of income.

If an owner, occupier or user of a site wishes to carry out certain activities within the designated area (that are not covered by licence or consent from another statutory body), they must consult with, and get consent from, the Minister for the Environment, Heritage and Local Government. These activities are listed as "Notifiable Actions" for each habitat (see Appendix IV). Local Authorities are obliged to ensure appropriate assessment of the implications of any development permission sought that may have an impact on a designated area.

The designation of the site or any conservation actions can be appealed by landowners or rightowners on a scientific basis. Details of the appeals procedure are also given in Appendix V.

SITE DESCRIPTION

Location including site boundaries

The Magherabeg Dunes cSAC is located on the east coast of Ireland, 5km south of Wicklow Head (see Map 1).

Grid Ref.:	T 32 87
Latitude:	N 52° 55' 43"
Longitude:	W 06° 01' 44"
Area:	74.6 ha
Altitude Range:	0 m to 20 m
Townlands:	Furzeditch East, Magherabeg, Maheramore.

(Map references are provided in Appendix II).



Magherabeg Dunes cSAC, Photo C. Stockdale

Site Boundaries

Agricultural lands bound the site to the north, west and south, with open seas located along its eastern boundary. The boundaries were established in surveys by Stockdale (1993) and Kelemen (1995), and further surveys have resulted in a boundary extension to include priority habitat on Ardmore Headland and the beach to the north.

Site Infrastructure

The site can be reached on land only by crossing private property. The regional road from Wicklow Town that follows the coast to the south is located beyond the western boundary of the site. There are no facilities for the public within the site.

Legal Status

Ownership

The site is in multiple private ownership.

Designations of the Site

candidate SpecialSite Code: IE0001766Area of Conservation

proposed Natural Site Code: 1766 Heritage Area

Past Status and Designation of the Site

The site was previously listed as an Area of Scientific Interest (ASI) and the Wicklow County Development Plan (1989) listed it for conservation on this basis.

Management Infrastructure

Individuals and Organisations Involved

Landowners

The site is in multiple private ownership.

National Parks & Wildlife (NPW) of the Department of Environment, Heritage and Local Government (DEHLG) NPW is responsible for maintaining the nature conservation value of the site. The site is patrolled by the local Conservation Ranger, with input from other staff as necessary (see Appendix VII for further details of NPW regional staff).

Planning Authority

Wicklow County Council is the relevant planning authority for the site.

Local Authority Policy in relation to the Site

The Wicklow County Development Plan (1999) states that the Council will "seek to conserve candidate Special Areas of Conservation and proposed Natural Heritage Areas and will consider the making of Special Amenity Area Orders and Conservation Orders in respect of these areas". The Council will also ensure that any development proposals potentially affecting SACs provide sufficient information indicating the impacts of the proposal on SACs and appropriate amelioration to mitigate potential impacts.

The Wicklow County Development Plan (1999) places Magherabeg Dunes within the Wicklow Head/Kilpoole Zone, and states that the conservation of Magherabeg Dunes SAC is a specific policy of the Plan.

Physical Features

Climate

The closest synoptic weather station to the site is the Casement station, and 30-Year Average information for this station was obtained from the Met Eireann website (for full details see Appendix III). In summary, the mean daily air temperature at the station is 9.3° C, ranging from an average low of 4.6° C in February to an average high of 15.2° C in July. The average annual rainfall is 711.4 mm, and the average daily duration of sunshine is 3.64 hours. Winds are predominantly from the west¹, with an average wind speed of 11.0 knots. There is an annual average of 16.9 days with snow or sleet recorded for the Casement station, but only 5.3 days where snow was still lying on the ground by 9am.

Geology & Geomorphology

Rhyolitic volcanics and buff weathering grey and black slates underlie the Ardmore Point area. Further west and south, the bedrock is dark grey slate and occasional minor pale sandstone. A fault line underlies Ardmore Point, running approximately east-west along the northern boundary (McConnell *et al.*, 1994).

Soils & Soil Processes

There is an interrupted gradation from sand on the seashore to the regional soil types (i.e. acid brown earths and brown podzolics) at the western tip of the site.

Biological Features

Habitats and Vegetation

Note: Throughout the conservation plan, habitats are named and described under two different systems: the Annex I habitats are as listed in the EU Habitats Interpretation Manual, while all other habitats are as listed according to the NPW NHA classification system.

The following table lists the habitats within the site. The Annex I habitats of the Habitats Directive for which the site was selected are listed, with the relevant NHA category also shown. Annex I priority habitats are marked with an asterisk (*). The Gross Habitat map for the site is presented in Map 2. The percentage presented for each habitat type is based on the approximate geographic area of each habitat, as shown in Map 2.

ANNEX I HABITAT TYPE	CORRESPONDING NHA CATEGORY	% AREA
*Fixed Coastal Dunes with Herbaceous Vegetation (grey dunes)	Sand Dunes	12% (mapped with *Atlantic Decalcified Fixed Dunes)
*Atlantic Decalcified Fixed Dunes (Calluno-Ulicetea)	Sand Dunes	as above (mapped with * <i>Fixed</i> <i>Coastal Dunes</i>)
*Petrifying Springs with Tufa formation (Cratoneurion)	-	<1%
Embryonic Shifting Dunes	Sand Dunes	2.3% (mapped with Shifting Dunes)
Shifting Dunes along the Shoreline with <i>Ammophila arenaria</i> (white dunes)	Sand Dunes	as above (mapped with Embryonic Shifting Dunes)

Habitats Found within Magherabeg Dunes cSAC

¹ Wind direction information was obtained from the Dublin Airport weather station as there is no wind direction information available from the Casement synoptic weather station.

Annual Vegetation of Drift Lines	Shingle Beach	(mapped with sandy beach below)
-	Dry, Broad-leaved Woodland	19%
-	Sandy Beach	22%
-	Dry Grassland/Scrub Mosaic	19%
-	Scrub	20%
-	Reedbeds and other swamps	2%
-	Lowland Dry Grassland	<1%
-	Bedrock Shores	2%
-	Rivers and Streams	<1%



Dunes at Magherabeg cSAC, Photo C. Stockdale.

Annex I Habitats:

*Fixed coastal dunes with herbaceous vegetation (grev dunes) (12% of total site area or 7.3ha including areas of *Atlantic Decalcified Fixed Dunes)

*Atlantic Decalcified Fixed Dunes (Calluno-

Ulicetea) (12% of total site area or 7.3ha including areas of *Fixed Coastal Dunes)

*Petrifying Springs with Tufa Formation (<1% of total site area)

Embryonic Shifting Dunes//Shifting **Dunes along the** Shoreline with Ammophila 2% of total site area or 1.7ha)

Annual Vegetation of Drift Lines (<1% of total site area)

The annual vegetation of drift lines habitat occurs as part of the sandy

Other Habitats

Dry, broad-leaved semi-natural woodland

*Fixed coastal dunes occur in a band along the majority of the length of the site. North of Three Mile Water, the dunes are protected from the sea by a band of embryonic shifting dunes (see below). Further south the foredunes have eroded and the *fixed coastal dunes adjoin the beach at a steep dune face. The *fixed coastal dunes are typically covered by Creeping Red Fescue (Festuca rubra), Lady's Bedstraw (Galium verum), Rest Harrow (Ononis repens), Sedges (Carex arenaria and other Carex spp.), Wild Thyme (Thymus praecox), Bird's-foot Trefoil (Lotus corniculatus), Horsetail (Equisetum fluviatile) and Orchids (Dactylorhiza spp.). Some Marram Grass (Ammophila arenaria) is present. Bracken (Pteridium aquilinum) and Burnet Rose (Rosa pimpinellifolia) are invasive throughout. The presence of certain species, including Spindle (Euonymus europaeus) indicates a high calcium content in the sand substrate. Moore's Horsetail (Equisetum moorei), a rare species confined to the east coast, is found in this habitat.

This habitat occurs on the inland side of the *fixed coastal dunes and in the dune slacks in the south of the site. Areas on the inland slopes of the habitat are dominated by Bracken, Bramble (Rubus fruticosus) and Burnet Rose, but also have some cover of Marram Grass and other typical sand dune species. In the dune slacks, Bracken is dominant with Bramble almost impenetrable in places.

On the shore near Ardmore Point, water is seeping through exposed rock for approximately 200m. A film of tufa is forming and lumps of previously formed tufa are occasionally scattered around the base of the cliff. The seepage has a diverse bryophyte community and may include diagnostic species of the Cratoneurion community (pers. comm., N. Lockhart). Further north, areas of *petrifying springs with tufa formation flushes are found near the base of the cliff. Species present include Black Bog Rush (Schoenus nigricans), Bent Grass (Agrostis stolonifera), Sea Milkwort (Glaux maritima), Sedges (Carex demissa, C. extensa), Stoneworts (Chara spp.) and Slender Club-rush (Isolepis cernuus).

Beyond the drift line in the southern part of the site, embryonic shifting dunes with Sand Couch (Elymus farctus) and some Marram Grass are found. In places, Sea Rocket (Cakile maritima) and Sea Holly (Eryngium *maritimum*) are growing. Some areas formerly supporting Common Reed (Phragmites australis) and Alder (Alnus glutinosa), adjacent to an old stream bed, are infilling with deposits of sand.

coastal beach habitat within the site.

In the dune slacks and on the elevated slopes towards the western boundary of the site, succession has led to the development of stunted woodland. Typical species are Ash (Fraxinus excelsior), Bramble, Gorse (Ulex europaeus), Hawthorn (Crataegus monogyna), Sycamore (Acer pseudoplatanus), Blackthorn (Prunus spinosa), Ivy (Hedera helix), Fleawort (Pucilaria dysenterica), Coarse Fescue (Festuca arundinacea) and Horsetail (Equisetum fluviatile). Along the margins of reedbeds and streams some small copses of Willow (Salix spp.) and Alder are found, indicating some marginal development of wet woodland.

Sandy coastal beaches 20-30m wide strips of beach comprise sand with little or no vegetation. Fine, grey deposits on the sand have been analysed and found to be waterborne dust, and are likely to originate from a nearby cement factory. These deposits are not thought to be harmful.



Sandy coastal beach and bedrock shores at Magherabeg, Photo C. Stockdale

Lowland dry grassland/scrub mosaic	Sandy grassland with approximately 20-25% scrub cover is found on the summit and side slopes of Ardmore Point. Fences enclose areas of grassland. Typical grassland species are Cocks'-foot Grass (<i>Dactylis glomerata</i>), Creeping Red Fescue, Crested Dog's-tail (<i>Cynosurus cristatus</i>), Bird's-foot Trefoil, Yorkshire Fog (<i>Holcus lanatus</i>) and Speedwell (<i>Veronica arvensis</i>). It is possible that this grassland has been fertilised in the past. The scrub element includes Bramble, with Gorse towards the rear of the site. The latter species indicates that *Atlantic decalcified fixed dunes are beginning to form.
Scrub	Scrub occurs in the south-western portion of the site, grading from *Atlantic decalcified fixed dunes with Bracken and Bramble.
Reedbeds and other swamp	An area of dune slack in the south of the site has stands of Common Reed.
Lowland dry grassland	A rank grassland with clumps of Sharp Rush (<i>Juncus acutus</i>), with little or no scrub, occurs along the front of Ardmore Point.
Bedrock shores	Bedrock is exposed around Ardmore Point and along the shore near the southern boundary. Lichen cover is high in places. Beyond areas exposed to wave action Thrift (<i>Armeria maritima</i>), Plantain (<i>Plantago maritima</i>) and Sea Mayweed (<i>Matricaria maritima</i>) are found.

Rivers and streams The Three Mile Water flows into the sea within the site and bisects it. The river is approximately 5-6m wide and 0.5-1m deep, is fast flowing and has a sand/shingle bed. The river course often swings in and around the dunes. The banks are overhung by scrub species, such as Willow (Salix spp.), Bramble and Common Reed. A previous study (Conservation Services, 1995) suggested that while water quality in the late 80's was poor (i.e. moderately polluted Q3 at "Bridge near Magherabeg" sampling station, in Clabby, K. J. et al., 1992), it is now substantially improved (slightly polluted Q4 at all stations sampled). A recent Environmental Impact Statement (EIS) by M. C. O'Sullivan, 1996), states that "while any pollution of the Three Mile Water would have immediate serious impact, its recovery would also be rapid due to its small size. There is clear evidence of this in recent years after significant agricultural pollution". A smaller stream flows to the sea near the southern boundary. A stream near Ardmore Point flows into a pool, with water reaching the sea mainly by seepage. This pool appears polluted, with dense algal growth evident.

Notable Flora:

A number of notable species have been recorded at the site, including:

- a rare hybrid sedge (*Carex grossii/Carex vesicaria x hirta*), only known from one other station in West Prussia in north-eastern Germany (Brunker, 1950)
- an old record for the Blue Marsh Vetchling (*Lathyrus palustris*) given for this general coastal strip may be for this site (Brunker, 1950). The species is classified as Rare by Curtis and McGough (1988)
- Moore's Horsetail is found within the site, although its status as a species is uncertain and it is possible that the plant may be a hybrid of other species. The plant is found only along parts of the Wicklow and Wexford coast.
- Sharp Rush is recorded at the site and is one of the most northerly records for the species in the country

Fauna:

Invertebrates

The site has a diverse population of butterflies, including Small Heath (*Coenomympha pamphilus*), Small Copper (*Lycaena phlaeas*), Common Blue (*Poltommatus icarus*), Grayling (*Hipparchia semele*) and Clouded Yellow (*Colias croceus*), an occasional migrant.

Fish

The Three Mile Water has populations of Brown Trout (*Salmo trutta*). Sea Trout are known to spawn in the river. Lamprey (species unknown) have been recorded in the Three Mile Water river (D. Byrne, *pers. comm.* 2005).

Birds

Kingfisher (*Alcedo atthis*), an Annex I EU Birds Directive species, has been observed on the site. The site has diverse populations of passerines, including Reed Bunting (*Emberiza schoeniclus*), Whitethroat (*Sylvia communis*) and Dipper (*Cinclus cinclus*). Coastal species of birds, such as Ringed Plover (*Charadrius hiaticula*), Oystercatcher (*Haematopus ostralegus*), Gulls (*Larus spp.*)

and Terns (*Sterna* spp.), have been observed within the site. Wildfowl, such as Mallard (*Anas platyrhynchos*) and Shelduck (*Tadorna tadorna*), are found on site during the winter.



Kingfisher (Alcedo atthis), Photo R. Mills.

Mammals

Otter (*Lutra lutra*), an Annex II EU Habitats Directive species, is known to use the Three Mile Water. Feral Mink (*Mustela vison*) has also been recorded. Rabbit (*Oryctolagus cuniculus*) warrens are common around Ardmore Point, although Rabbit populations appear to be quite low.



Otter (Lutra lutra)

Cultural Features

Land use and impacts on the site

- Amenity and
RecreationSince there is no public access to this area, recreational use is low. Only
the private landowners have direct access to the site. Some path erosion
from trampling is evident but it is on a small scale compared to similar
dune systems in the region.
- **Grazing** Ardmore Point and the lands north of the Three Mile Water have traditionally been used for cattle grazing, although there has been no grazing for five or six years. The landowners of this section of the site have formed a group (Magherabeg Farms Ltd.) which is now a participant in the Rural Environment Protection Scheme (REPS). There has been no stock grazing in the remainder of the site for approximately ten years.

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HuntingMagherabeg Farms Ltd. organise Pheasant (Phasianus colchicus)<br/>shooting on the site. The birds are reared and released for this purpose.
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Land use adjacent to the site

Agriculture The fields to the west of the site are used for grazing, mainly by cattle, and tillage crops (including wheat).

- Amenity and
RecreationThe Wicklow coast area is a popular tourist destination. Brittas Bay,
0.5km to the south, has very high visitor use.
- Waste Disposal Wicklow County Council has proposed the siting of a municipal landfill at Ballynagran, near the source of Three Mile Water. This site is licensed for the disposal and recovery of non-hazardous waste (IPC Licence No. 165-1, <u>http://www.epa.ie/licences/waste_lic/165-1lic.pdf</u>). The proposal was contested by local residents with regard to the potential for the proposed landfill to effect water quality. An EIS (M. C. O' Sullivan, 1996) states that the "*landfill lining natural and artificial will prevent leachate escaping to the Three Mile Water*" (Vol. 1, Section 7 of the EIS). It further states that storm water will be collected in a peripheral drain from the dump and discharged into the river, but leachate will be collected separately, treated and discharged elsewhere. The only impact foreseen is the effect of clay and silt from storm water on trout spawning beds (Vol. 2. Section 5 of the EIS).

Past human use

Cattle grazing occurred on some restricted areas of the dunes up until 5-10 years ago. The course of the Three Mile Water was diverted at some point in the early 1980's.

Recorded Monuments and Other Features

There are no recorded national monuments known from the site.

ECOLOGICAL ASSESSMENT

Note: The following is an assessment of the ecological features of the site. It is largely based on information given in the explanatory notes which accompany the Natura 2000 form (compiled in March 2000). Additional information, obtained since these notes were written may also have been used to make the assessment.

The site is of ecological and conservation significance due to the presence of a dynamic sand dune system that is relatively intact in comparison to other similar systems in Ireland. This is due to the low level of disturbance and recreational pressure experienced at the site. Low recreational pressure is a result of the site being entirely privately owned and the only access to the site is through private lands.

There is a diverse range of typical sand dune habitats represented within the site, with other habitats of conservation significance also occurring. Three Annex I priority habitats occur (i.e. *fixed coastal dunes, *Atlantic decalcified fixed dunes and *petrifying springs with tufa), as well as three other Annex I habitats (i.e. embryonic shifting dunes, shifting dunes along the shoreline and annual vegetation of drift lines). In addition to these, the site supports nine more commonly occurring habitats (e.g. sandy beach and lowland dry grassland).

Of the priority habitats present within the site, the *fixed coastal dunes comprises approximately 10% of the site and represent a small but intact example of an Irish east coast dune system with a typical flora. The *Atlantic decalcified fixed dunes within the site is an intact example of this very rare habitat in Ireland, which is only known from three sites on the east coast of Ireland. The *petrifying springs are a good example of this habitat in a coastal setting and the habitat contains at least two diagnostic bryophytes. The three other Annex I habitats are all considered to be small but typical examples of the habitats.

With regard to fauna species, the site supports freshwater habitats on the site that are known to provide resources for the Kingfisher (an Annex I EU Birds Directive species) and the Otter (an EU Annex II Habitats Directive species and Internationally Important Irish Red Data Book species).

The site is of conservation significance due to the presence of a diverse range of priority and annexed habitats and species, but also because of the general lack of disturbance to the site and as the owners are sympathetic to the site's conservation needs. This ensures that the prospects for conserving the site's ecological features are good.

OBJECTIVES, STRATEGIES AND ZONING

Conservation Objectives

The nature conservation objectives for this site are:

Objective 1:	To maintain and, where possible, enhance the ecological value of the priority habitats *fixed coastal dunes and *Atlantic decalcified dune heath.
Objective 2:	To maintain and, where possible enhance the ecological value of the priority habitat *petrifying springs with tufa formations.
Objective 3:	To maintain and, where possible, enhance the ecological value of other habitats within the site.
Objective 4:	To maintain and, where possible, increase populations of noteworthy species of plants.
Objective 5:	To maintain effective liaison between NPW, relevant authorities and interested parties regarding the management of the site.

Management Issues

Note: The main issues that may impact on the conservation of the site are outlined below. The constraints that these may pose and the management potential for the site are discussed.

- Erosion
- Succession to Scrub and Woodland
- Grazing
- Water Quality and Pollution
- Silage Storage

Erosion

Erosion of the foredunes by wind and sea is occurring in the south of the site and there is currently no corresponding depositional stage. This leads to an overall loss in area of *fixed coastal dunes. It has been estimated that the loss is approximately a 4m wide stretch along the southern part of the site in the past three years. Although there is some deposition of sand in the northern portion of the site, evidenced by the formation of embryonic dunes, the deposition is thought to be cyclic and there appears to be no accretion of land over time.

As the control of erosional processes are beyond the scope of site management, it will be necessary to control the spread of scrub to maintain the *fixed coastal dune habitat.

Succession to Scrub and Woodland

Bracken and Burnet Rose are invasive on the lower inland slopes of the *fixed coastal dunes and in the dune slack area. This is thought to be due to the lack of grazing in recent years. Sycamore, a non-native species, is regenerating naturally in scrub areas.

Succession to woodland on dunes rarely occurs and the site represents one of the few examples of this habitat in Ireland. The high scrub and woodland on dunes within the site should be maintained.

Grazing

The *fixed coastal dunes and dune slack are undergoing succession to rank grassland and low scrub, with subsequent loss of priority habitat and flora diversity. The succession was previously controlled through grazing by cattle. Reintroduction of grazers (cattle, ponies or sheep) at a sustainable level will ensure succession to scrub and subsequent loss of habitats is managed.

Water Quality and Pollution

Previous surveys suggest that water quality in freshwater habitats within the site may occasionally be quite low. Some pollution of the Three Mile Water and the small stream in the north of the site is known to occur. The source of pollution has not been established but it may be from agricultural sources. The proposed municipal landfill at Ballynagran, if constructed, may cause siltation of the stream bed (M. C. O'Sullivan, 1996). The IPC Licence (165-1) for this landfill site specifies management tools that must be used to protect the quality of groundwater and surface water and to prevent leachate pollution (Conditions 3.16, 3.17, 5.10, 6.4 and 6.5).

Maintenance of water quality is desirable as two Annexed species that depend on freshwater habitats have been observed within the site (i.e. the Kingfisher and the Otter). Action should be taken if pollution is found to occur within the site or upstream.

Silage Storage

A currently disused silage pit is located within the site. If it were used in the future, run-off originating from the pit would likely degrade the ecological features of the site through nutrient enrichment of the soil.

General Strategies

Specific strategies that relate to the above objectives are outlined below. However, there are a number of strategies that relate to the site as a whole. These are as follows:

Implement plan

DEHLG will seek to ensure that the aims of this conservation plan are achieved through:

- implementation of REPS or DEHLG farm plans, which will use this document as a guideline for prescribing management on a farm by farm basis, and also will ensure that the agreed prescriptions for the relevant habitats are adhered to (see Appendix VI)
- enforcement of Regulations under the Habitats/Birds Directives and the Wildlife Act
- enforcement of other relevant legislation such as the Water Pollution Act

Establish a monitoring regime

The monitoring regime for the site will comprise:

Water quality monitoring	Water quality is monitored at regular intervals by local authorities. NPW staff will liaise with Wicklow County Council, and will collate and review this information on a regular basis. NPW will also liaise with relevant bodies (n.b. the EPA and local authority) in relation to compliance with the EU Water Framework. In particular:
	• To establish reference conditions necessary for monitoring the status of the qualifying habitat
	• To ensure that the sampling regime is adequate to detect changes in the conservation status of the designated area
	Schedule D of the IPC Licence under which the landfill site at Ballynagran operates, outlines specific monitoring prescriptions which must be followed.
	NPW will liaise with the local authority and other relevant agencies in ensuring that the full ecological importance and sensitivity of the site is taken into account during the production of the River Basin District Management plan. In addition, NPW will liaise with the Local Authority in ensuring that sewerage disposal systems for all new (and existing) dwellings within the catchment area are of appropriate standards.
Scientific monitoring	Monitoring of the favourable conservation status of the qualifying interests of the site will be done by, or on behalf of, the staff of the Monitoring Section of the NPW or staff working to NPW in accordance with the procedures laid down by that section. The work, if any, to be done on this site in that respect will be prescribed by that section.
Site surveillance	Patrolling of the site by the Conservation Ranger, with special attention to the sand dune system, *petrifying springs, notable plant species, Rabbit population numbers and erosion will identify any major changes, damaging operations, or threats should they arise.

Enforce notifiable actions

Certain activities may be restricted in SACs. Notifiable Actions for particular habitats are listed in Appendix IV of this plan. Permission from the Minister is required before these actions may be carried out within the designated area. For example, the alteration of banks, beds or flow of watercourses, the driving of vehicles over the area (except over rights of way or over access to licenced aquaculture) or the grazing of livestock above a sustainable level are notifiable actions.

Specific Strategies

Objective 1.

To maintain and, where possible, enhance the ecological value of the priority habitats, *fixed coastal dunes and *Atlantic decalcified dune heath.

Strategies:

1.1.	Prevent access to dune forefront	Due to erosion and succession the current extent of these habitats is confined to the seaward side of the dunes (see Map 2). On the fragile forefront of the dunes, any access by domestic stock is likely to cause trampling and erosion. NPW will prevent access to this area by liaising with the landowners regarding the erection of an electric fence along the front crest of the dunes to separate this area from the area of dunes to be grazed (see Strategy 1.2).
1.2.	Reintroduce grazers and achieve sustainable grazing	NPW to liaise with the landowners to reintroduce domestic stock to the *fixed coastal dunes and dune slacks at a grazing density of a maximum of 1-1.5 cattle or ponies/ha or, if cattle or ponies are not available, 3-4 sheep/ha. NPW will strive to ensure that grazing occurs during the winter season (i.e. from 15th September until 15th March). Where grazing has been absent for some years rough ponies would be the most suitable grazers. If the vegetation reverts to the desirable structure (less scrub species cover), grazing levels will be reduced to 0.5-1 cattle/pony or two sheep/ha for a slightly shorter grazing season (i.e. from 15th October until 15th March). Local NPW staff, through liaising with landowners, will check the site regularly and recommend changes in stocking density if appropriate. The use of electric fencing is recommended to prevent grazers accessing the high scrub/woodland where it occurs.
1.3.	Patrol monitor Rabbit populations	Rabbit populations are known to fluctuate wildly since the introduction of myxomatosis. Any drastic increase in Rabbit populations would have an impact on the sand dunes through an increase in grazing pressure. NPW, through liaising with landowners, will monitor Rabbit populations (e.g. by a count of the number of active warrens) and, if a notable increase occurs, will consider controlling Rabbit populations or

1.4. Continue current low levels of recreational use Since the site is in private ownership, no radical increase in numbers of recreational users is foreseen. NPW will liaise with landowners (strategy 5.1) to ensure continuation of low recreational use.

correspondingly decrease the number of domestic grazers.

Objective 2.

To maintain and, where possible, enhance the ecological value of the priority habitat *petrifying springs with tufa formations.

Strategies:

2.1. Non-intervention No current activities are known to threaten the *petrifying springs habitat. No active management is needed to maintain this system. See the general monitoring strategy.

Objective 3.

To maintain and, where possible, enhance the ecological value of other habitats within the site.

Strategies:

- **3.1. Maintain high scrub** and woodland Succession to woodland on dunes is rare. Maintain the woodlands by preventing invasion of Sycamore and potential damage to the area caused by grazers. All seedling Sycamores should be pulled. Mature Sycamore trees can be ring-barked and left as standing dead wood. If damage as a result of trespass by grazing stock is occurring in high scrub or woodland, exclude grazers by erecting an electric fence.
- **3.2. Maintain freshwater habitats** NPW, through liaising with landowners and the EPA, will ensure adequate monitoring of levels of water quality in Three Mile Water, and in other streams within the site, takes place. If pollution is occurring establish the source(s) and liaise with relevant organisations to ensure enforcement of the Local Government (Water Pollution) Acts. See the general monitoring strategies.
- 3.3. Sustainable grazing of grassland/ scrub mosaic NPW to liaise with landowners with regard to maintenance of sustainable grazing levels on the grassland/scrub mosaic. Note that the grassland in the northern portion of the site may have been fertilised at some point, as a consequence initial grazing could be at higher stocking density described than those described in Strategy 1.2. The presence of fences in the area allows the use of slightly different grazing regimes, and ease in recording grazing impacts.
- **3.4.** Non-intervention No active management is needed to maintain areas of sandy beach, exposed rock, embryonic shifting dune or reedbed.

Objective 4.

To maintain and, where possible, increase populations of noteworthy species of plants.

Strategies:

4.1. Monitor plants See general monitoring strategy.

Objective 5.

To maintain effective liaison between NPW, relevant authorities and interested parties regarding the management of the site.

Strategies:

- **5.1. Liaise with** interested parties NPW will strive to maintain effective liaison with landowners (particularly through the Liaison Committee), relevant authorities and interested parties on achieving the objectives for conservation of the site.
- **5.2. Monitor development applications** NPW will continue to monitor applications, including current applications, for planning permission and licenses for lands within and adjacent to the site. Appropriate bodies will be notified if developments are thought to conflict with conservation objectives.
- **5.3.** Liaise with REPS REPS planners are required to consult with NPW staff when they are developing plans for land within the site.

Zoning

Note: Zoning is the division of a nature conservation site and neighbouring lands into a number of sub-units. There are four types of zones identified (not necessarily all occurring within a site): A, B and C within the site and D outside the site but impacting on it. The relevant strategies are listed for each site.

Zone A: A Natural Zone

Areas of high conservation value, which require no or little intervention (see Map 3).

- 1A: NON-INTERVENTION AREAS
- *1A1: Beach, front of *fixed coastal dunes, bedrock shores, grassland and *petrifying springs with tufa formations
 - Strategies 1.1, 1.4, 2.1 and the general strategies apply.
- **1A2:** Woodland and reedbeds Strategies 3.1, 3.4 and the general strategies apply.
- **1A3: Rivers and streams** Strategy 3.2 and the general strategies apply.

Zone B: Active Management

Areas of high conservation value where high management input is needed to maintain, rehabilitate, restore to a more desirable state (see Map 3).

*B1: *FIXED COASTAL DUNES WITH HERBACEOUS VEGETATION (GREY DUNES), *ATLANTIC DECALCIFIED FIXED DUNES AND GRASSLAND/ SCRUB MOSAIC

Strategies 1.2, 1.3, 3.3 and the general strategies apply.

Zone D: Impact Zone

Areas outside the site, which may have an impact on the site (see Map 3).

D1: RIVERS

The rivers are potential threat sources as they can bring pollution from upstream. Maintain freshwater habitats by monitoring water quality and minimising pollution threats (strategy 3.2).

D2: EROSION BY WIND AND WAVES

Erosion is apparently occurring at the southern end of the site, with a loss of foredunes and consequently priority habitat. While control of erosion in the area is beyond the scope of site management, it is necessary to monitor the trend in erosion carefully for future reference in assessing the conservation status of the site.

Summary of Specific Strategies

Note: It is implicit with all the strategies presented that their implementation is dependent on availability of adequate resources in terms of staff, expertise and financial resources. Also, that cooperation with landowners and other key stakeholders is key to achieving the stated objectives.

	Strategy	Action required	Who to implement	When/Duration/ Frequency	Estimated Total Cost	Additional Resources needed
1.1.	Prevent access to dune forefront	Erect electric fence to prevent access of cattle to the	NPW/			
		fragile dune forefront.	Landowners			
1.2.	Reintroduce grazers and achieve sustainable	Reintroduce grazers and monitor effects of grazing.	NPW/			
	grazing	Install electric fencing to prevent access to high scrub/woodland.	Landowners			
1.3.	Patrol monitor Rabbit populations	Patrol monitoring to include monitoring of Rabbit populations (see general monitoring strategy).	NPW			
1.4.	Continue current low levels of recreational use	Liaise with landowners to ensure continuation of low	NPW/			
		recreational levels.	Landowners			
2.1.	Non-intervention	-	-			
3.1.	Maintain high scrub and woodland	Maintain by controlling Sycamore and control damage	NPW/			
		by grazers.	Landowners			
3.2.	Maintain freshwater habitats	Monitor water quality according to general strategies.	NPW/ EPA/			
			Landowners			
3.3.	Sustainable grazing of grassland/ scrub mosaic	Maintain suitable sustainable grazing regime.	NPW/			
			Landowners			
3.4.	Non-intervention	-	-			
4.1.	Monitor plants	See general monitoring strategy.	NPW			
5.1.	Liaise with interested parties	Maintain effective liaison with relevant parties.	NPW			
5.2.	Monitor development applications	Monitor development applications for lands within and	NPW			
		adjacent to the site. Inform appropriate bodies if				
		developments may be in conflict with conservation				
		objectives.				
5.3.	Liaise with REPS planners	REPS planners are required to consult with NPW staff if	REPS			
		developing plans for land within the site.	planners			

APPENDIX I: GLOSSARY

ACIDIC - When applied to soils, refers to soils which are of a low pH i.e. below 7. The term is often used in relation to the plant communities that an acid soil may support e.g. acidic grassland.

ALTITUDE - Vertical height above sea level.

ANNEX I - of the EU Birds Directive, lists birds that are strictly protected so that they cannot be killed, captured, disturbed or traded.

ANNEX I - of the EU Habitats Directive, lists habitats including priority habitats for which SACs have to be designated.

ANNEX II - of the EU Habitats Directive is a list of species for which SACs have to be designated.

ANNUAL VEGETATION OF DRIFT LINES - A habitat listed in Annex I of the EU Habitats Directive. Formations of annuals or, representatives of annuals or perennials, occupying accumulations of drift material and gravels rich in nitrogenous organic matter.

AQUACULTURE - The use of cages, tanks, troughs or artificial substrates to raise invertebrates (e.g. oysters, mussels or clams) or finned fish in marine or freshwater environments. (This does not cover lakes which have been stocked for angling). It can occur onshore, intertidally or subtidally and be intensive of extensive in nature. Intensive aquaculture involves growing stock at high densities with the aid of artificial structure (e.g. caged fin-fish suspended mussels, clams under nets and oysters in bags). In extensive aquaculture stock is usually grown on the seabed at lower densities, harvesting involves simply collecting marine organisms (wild fish, shellfish, worms and seaweed).

ASIs - Areas of Scientific Interest. Areas that were identified in the 1970s as being of conservation interest. The NHA designation developed from ASIs.

BEDROCK SHORES – An NPW habitat category describing shorelines formed predominantly of bedrock. Lower sections of shoreline are often covered by fucoid algae.

BIODIVERSITY – A general term used to describe all aspects of biological diversity, including: the number of species present in a given environment; the genetic diversity present within a species; the number of different ecosystems present within a given environment.

BIRDS DIRECTIVE (Council Directive 79/ 409/ 2nd April 1979) - Under this Directive Ireland is required to conserve the habitats of two categories of wild birds: 1) Listed rare and vulnerable species and 2) Regularly occurring migratory species. The Directive also obliges Ireland to conserve wetlands, especially those of international importance and regulates the hunting and trading of wildbirds. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

CATCHMENT - An area of land draining to a defined point. The term river catchment refers to the area of land that drains into a particular river system.

CLAY SEA CLIFFS - An NPW habitat classification which refers to very steep, often near vertical, coastal cliffs, adjacent to the sea or only separated from the sea by a narrow shoreline. It is formed primarily of soft deposits rather than bedrock, although stones, rocks and boulders may be exposed on the cliff face. Clay sea cliffs may support a rich vegetation of seashore plants or equally they may be unvegetated, especially the steeper unstable cliffs.

COASTAL SANDY BEACHES – An NPW habitat classification which refers to linear sloping sandy shorelines of fine grained sand usually running along the seaward side of sand dunes and salt marshes.

COMMUNITY - a well-defined assemblage of plants and/or animals, clearly distinguishable from other such assemblages.

CONSERVATION STATUS - The sum of the influences acting on a habitat and its typical species that may affect its long term distribution, structure and functions. Also refers to the long-term survival of its typical species within the European territory of the Member States.

DEHLG - Department of Environment, Heritage and Local Government

DEVELOPMENT PLANS - Local Authorities (Co. Councils & Corporations) are obliged under statute to produce a document which sets out the planned development of their areas for a given number of years. In the future Local Authorities will be asked to incorporate designated NHAs, SACs and SPAs classifications into their development plans.

DIVERSITY - see biodiversity.

DRY, BROAD-LEAVED SEMI-NATURAL WOODLAND – An NPW habitat classification which refers to woodland which reaches a height more than 5 m in most places. If the cover of exotic trees within a block is more than 10%, the woodland should be classified as mixed woodland. Also see wet broad-leaved semi-natural woodland.

ENCROACHMENT - The invasion of a species (usually plants) into areas previously uncolonised. This term is often used when an undesirable species advances at the expense of a desirable species or habitat.

ENVIRONMENT – The biological and physical conditions in which an organism lives.

EPA – Environmental Protection Agency

EROSION - The processes whereby the materials of the Earth's crust are dissolved, or worn away and simultaneously moved from one place to another by natural agencies which include weathering, solution, corrosion and transportation.

EUROPEAN BIRDS DIRECTIVE (79/409/2nd April 1979) - See Birds Directive.

EUTROPHICATION - The nutrient enrichment of aquatic ecosystems usually by phosphates and nitrates. It may occur naturally but can also be the result of human activity (fertiliser run-off/ sewage discharge/ seepage from silage etc.).

EXPOSED ROCK – An NPW habitat classification describing bedrock surfaces, including inland cliffs and crags. These may support a variety of different plants on soil accumulations, but greater than 50% of the rock surface is without vascular plant cover.

FACILITATOR - A person who, in consultation with others, assists NPW staff in the production of a conservation or management plan.

FAUNA - Animal life.

FAVOURABLE CONSERVATION STATUS - The conservation status of a natural habitat will be taken as "favourable" when: its natural range and areas 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.

FIXED COASTAL DUNES WITH HERBACEOUS VEGETATION - A priority habitat listed in Annex I of the EU Habitats Directive. These are static dunes, stabilised and colonised by more or less closed perennial grasslands and abundant carpets of lichens and mosses.

FLORA - plant life.

GEOMORPHOLOGY – The study of the form and structure of the landscape, which is shaped by the underlying geology.

HABITAT - Refers to the environment defined by specific abiotic and biotic factors, in which a species lives at any stage of its biological cycle. In general terms it is a species home. In the Habitats Directive this term is used more loosely to mean plant communities and areas to be given protection.

HABITATS DIRECTIVE - (Council Directive 92/43/EEC). The Directive on the conservation of Natural Habitats and of Wild Flora and Fauna. This Directive seeks to legally protect wildlife and its habitats. It was transposed into Irish legislation by the EU (Natural Habitats) Regulations, 1997.

HERBACEOUS - Seed plants with non-woody green stems.

HERBICIDE - A chemical or biological preparation which kills plants.

HYDROLOGY - The movement of water through a catchment area including freshwater and seawater inputs, water level changes and drainage mechanisms which are all influenced by the underlying geology.

INVERTEBRATES - Animals without backbones.

LATITUDE – The angular distance measured in degrees north or south of the equator.

LIAISON - Communication and contact between two groups.

LIAISON COMMITTEE - This is a special group set up to discuss the contents of a conservation management plan and the implementation of the plan. The committee will include representation of landowners, right-holders and other interest groups. It shall be the function of the committee to advise NPW managers on the interaction between site conservation management and local interests. The Liaison Committee will nominate a member to the official Appeals Board which will consider appeals against site designation and other issues. The Liaison Committee will be independent from the NPW.

LICHENS – An organism that consists of a fungus growing in close association (symbiosis) with an alga.

LOWLAND DRY GRASSLAND - An NPW habitat classification describing grasslands which normally are below the 100m contour, on well drained soils and characteristically with a fairly complete cover of grasses.

MANAGEMENT - a) Controlling processes within a site (this can be actively carrying out work or can be doing nothing), preferably in accordance with a conservation plan. - b) The practical implementation of the management plan. - c) Undertaking any task or project identified in the management plan, including the identification of new opportunities.

MARINE - Found in, or relating to the sea.

MONITORING – A repeat or repeats of a survey using the same methodology. Designed to look for or measure specific changes and the rate or extent of change. Used to check the "health" quantity or quality of a habitat or species.

MOSAIC - Used to describe habitats that occur together and cannot easily be mapped separately.

MULTIPLE PRIVATE OWNERSHIP- Lands that are divided into areas which are privately owned. There must be more than one private landowner under this heading. (lands in commonage are not described under this heading).

NATIONAL PARKS AND WILDLIFE (NPW) – the section of the Environment Infrastructure and Services division of the Department of Environment, Heritage and Local Government with responsibility for nature conservation and implementation of Government conservation policy as enunciated by the Minister for the Environment, Heritage and Local Government.

NATURA 2000 - A network of sites across the European Community, selected for the purpose of conserving natural habitats and species of plants and animals which are rare, endangered or vulnerable in the European Community. SACs and SPAs form the Natura 2000 network.

NHAs - Proposed Natural Heritage Areas. These are areas that are important for wildlife conservation. Some of these sites are small, such as roosting areas for rare bats; others can be large such as a blanket bog or a sand dune system.

NOTABLE SPECIES - Plants or animals which are worthy of mentioning either because they are particularly typical of a habitat, or because they are rare/ scarce/ atypical.

NOTIFIABLE ACTIONS - Actions specified under the cSAC regulations and are listed in the appendices of a conservation plan. These are actions which could cause damage to the site, and for which prior approval is required before they can be carried out.

NPW - National Parks and Wildlife (see above).

OPEN MARINE WATER - An NPW habitat classification which refers to bodies of sea water receiving no significant freshwater input, and not enclosed by nearby land masses.

ORGANISM - Any living thing.

OS – Ordnance Survey

PATROL MONITORING - Regular monitoring of a site usually carried out by the Conservation Ranger to check for damaging activities and to carry out other activities such as to assess the vegetation, to assess the effectiveness of the management regime on the condition of the site, etc.

PER-ANNUM - Each year.

PETRIFYING SPRINGS WITH TUFA FORMATION - A priority habitat listed in Annex I of the EU Habitats Directive. This habitat is formed by hard water springs with active formation of travertine or tufa (this is a white chalk like substance). These formations are found in such diverse environments as forests or open countryside. They are generally small (point or linear formations) and are dominated by mosses.

PODZOL – a leached soil formed mainly in cool, humid climates.

PRIORITY HABITAT - A subset of the habitats listed in Annex I of the EU Habitats Directive. These are habitats which are in danger of disappearance and whose natural range mainly falls within the territory of the European Union. These habitats are of the highest conservation status and require measures to ensure that their favourable conservation status is maintained.

RARE - An ecological term applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. A species is described as rare if has been recorded in to 3-10, 10 km squares.

RED DATA BOOK - A register of threatened species that includes definitions of degrees of threat.

RED DATA BOOK (lower plants) - This Red Data Book deals with Stoneworts which are recognised as a separate class, Characea, of the Green Algae Chlorophyta). Many of these species are threatened by loss of habitat or pollution.

RED DATA BOOK 1 (vascular plants) This Red Data Book deals with rare and threatened flowering plants and ferns of Ireland with an account of their present distributions and conservation status.

RED DATA BOOK 2 (mammals, birds, amphibians and fish) - identifies those species threatened in Ireland or those species whose populations are considered to be of international importance, though not necessarily threatened in Ireland. It details the current state of Irish vertebrates and provides a concise summary of the various legislation for each species.

REEDBEDS AND OTHER SWAMPS - An NPW habitat classification. This habitat comprises tall, species poor, usually emergent vegetation, often found in a narrow fringe at the edge of open water or occupying more extensive areas in shallow basins which may become dry in Summer. The vegetation is species poor and overwhelmingly dominated by a single species, typically Common Reed (Phragmites australis).

REPS - Rural Environmental Protection Scheme. This is an Agri-Environmental programme which seeks to draw up agreements with farmers, according to the type of farming, landscape and features on the land. The overall objectives of REPS are to achieve: the use of farming practices which reduce the polluting effects of agriculture by minimising nutrient loss- an environmentally favourable extensification of crop farming, and sheep farming and cattle farming; - ways of using agricultural land which are compatible with protection and improvement of the environment, the countryside, the landscape, natural resources the soil and genetic diversity; - long-term set-aside of agricultural land for reasons connected with the environment; - land management for public access;- education and training for farmers in types of farming compatible with the requirements of environmental protection and upkeep of the countryside.

RHYOLITIC – originating from fine-grained extrusive, acid, igneous rock, consisting mostly of quartz, feldspar and often mica.

RIVERS AND STREAMS - An NPW habitat classification describing linear channels of moving water. These are natural features that distinguish them from ditches and drainage channels.

SACs - Special Areas of Conservation have been selected from the prime examples of wildlife conservation areas in Ireland. Their legal basis from which selection is derived is The Habitats Directive (92/43/EEC of the 21st May 1992). SACs have also been known as cSACs which stands for "candidate Special Areas of Conservation", and pcSACs which stands for "proposed candidate Special Areas of Conservation."

SAND DUNES – A NPW habitat classification which refers to several structures; this habitat category is intended to cover the whole succession of habitats. (i) Fore-dunes. Loose mounds of sand stabilised to a degree by coarse stiff grasses, especially *Ammophila arenaria* (Marram grass). (ii) Fixed-dunes. Stabilised sand with a closed cover of less coarse, sometimes fine-leaved perennial grasses, often herb rich. (iii) Dune heaths and scrub. Where the grassy communities have been succeeded by heathers or thorns. (iv) Dune slacks. Wet ground behind the dunes often colonised by reeds.

SCIENTIFIC MONITORING - this is carried out by the monitoring section of the NPW, whose function here is to ensure that the favourable conservation status of the site is maintained and where possible improved.

SCRUB – An NPW habitat classification which comprises areas with more than 50% cover of shrubs or small trees. There may be scattered standard trees, but in general the canopy height is 5m or less. This category does not apply to stands of young trees which will eventually grow to a height of more than 5m.

SHINGLE BEACHES - An NPW habitat classification which refers to areas above the spring low water mark which are predominantly of sediments coarser than sand, often with a high proportion of shell fragments, but not rocky.

SLATE - metamorphic rock possessing a well-developed planar cleavage such that it splits into thin slabs or "slates".

SPAs - Special Protection Areas for Birds are areas which have been designated to ensure the conservation of certain categories of birds. Ireland is required to conserve the habitats of two categories of wild birds under the European Birds Directive (Council Directive 79/ 409/ 2nd April 1979). The NPW is responsible for ensuring that such areas are protected from significant damage.

SPECIES - the lowest unit of classification normally used for plants and animals.

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STRATEGY - A course of action or a broad approach towards achieving an objective . It is the general thrust of management towards achieving an objective. It is a description of how the objective is to be achieved.

SUCCESSION - The non-seasonal, directional continuous pattern of colonisation and extinction on a site by populations.

SUPPLEMENTARY FEEDING - The practice of providing livestock with additional food, usually carried out in winter. This term is most often used when hay, silage or other foods are brought into a site to supply Cattle or Sheep with food during times when growing conditions are poor.

SURVEY - a) Study/visit to produce an inventory of what is present/record a situation.- b) Establishing a baseline (study).

SUSTAINABLE - The highest rate at which a renewable resource can be used without reducing its supply (without causing damage to the resource).

VERY RARE - an ecological term which is applied to distribution of species when assessed on a national grid reference system. The assessment is made on the basis of the number of occupied 10 km National Grid squares. Very Rare applies to 1-2, 10 km squares in this context.

WETLAND - An area habitually saturated with water, and which may be partially or wholly covered permanently, occasionally, or periodically by fresh or salt water up to a depth of 6 m, and which includes bogs, fens, marsh, shallow ponds, river estuaries, and intertidal mud flats.

ZONING - The division of a nature conservation site (& neighbouring lands) into a number of subunits. Within each zone the management prescriptions will be reasonably uniform and will differ in type or intensity from the other zones in the plan.

APPENDIX II: REFERENCES

Map References:

O.S. 1/2 inch (1:126,720) map: 16

O.S. Discovery (1:50,000) map: 62

O.S. 6 inch (1: 10,560) map: WI 31

Data Bases :

NHA database, NPW, Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Natura 2000 database, NPW, Department of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2.

Photographic Coverage:

Department of Environment, Heritage and Local Government, HQ Ely Place, Aerial photo No. 6387, Flight Line 45C. Date: 6/1995.

Relevant Legislation:

S.I. No. 94/1997: European Communities (Natural Habitats) Regulations, 1997.

Local Government (Planning and Development) Regulations, 2000.

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APPENDIX III: PHYSICAL PROCESSES AFFECTING THE SITE

Climate

TEMPERATURE (degrees Celsius)	jan	fah		(110.14		:	:1		0.010	aat	-	daa	
mean daily max.	<i>Jan</i> 7.8	JeD 7.6	<i>mar</i> 9.6	<i>apr</i>	<i>may</i>	·	ји 19.7	19.3	16.8	13.6	<i>nov</i> 9.9	<i>aec</i> 8.3	<i>year</i> 13.1
												0.0	
mean daily min.	2	1.7	2.5	3.2	5.7	8.6	10.7	10.3	8.5	6.7	3.6		
mean	4.9	4.6	6	7.5	10.1	13.1	15.2	14.8	12.6	10.1	6.7	5.6	
absolute max.	15.4	14.7	18.8	21.3	24.7	27.5	29.8	30.5	24.7	21.3	17.7	15.4	30.
absolute min.	-12.4	-10.3	-7.8	-4.5	-3		2.5	2.5	-0.3	-4.1	-6.2	-9.7	-1
mean no. of days with air frost	7.5	7.7	6.3	4.9	1		0		-	1.4	5.9	0.0	
mean no. of days with ground frost	15.3	15	13.1	12.8	6.3	1.1	0.1	0.1	1.6	4.5	11	13.5	94.
RELATIVE HUMIDITY (%)													
mean at 0900UTC	87	86	84	80	77	77	79	81	84	86	87	87	8
mean at 1500UTC	82	77	72	68	68	68	68	68	71	76	81	83	7
SUNSHINE (hours)												1	
mean daily duration	1.63	2.38	3.04	4.85	5.65	5.63	5.01	4.83	4.04	3.07	2.16	1.42	3.6
greatest daily duration	8.1	9.2	10.9	13.6	15.4	16	15.4	14.4	12.3	9.8	8.5	6.9	1
mean no. of days with no sun	10	7	5	2	2	2	1	2	3	5	7	11	5
RAINFALL (mm)													
mean monthly total	68.7	50.7	53.8	49.9	56.6	53	48.9	63.7	58.7	67.2	67.2	73.1	71
greatest daily total	31.4	42.8	30	35.3	34.3	108.6	41.4	73	32.1	48.5	58.4	42.9	10
mean no. of days with $>= 0.2mm$	18	14	17	14	15	14	14	14	15	16	16	17	18
mean no. of days with $>= 1.0mm$	13	10	12	10	11	10	9	10	10	11	11	12	13
mean no. of days with ≥ 5.0 mm	5	3	3	3	4	3	3	4	4	4	4	5	4
WIND (knots)													
mean monthly speed	14.1	12.5	12.8	10.1	9.1	8.7	8.9	8.7	10.1	11.2	12.3	13.3	1
max. gust	80	78	71	59	63	53	58	58	69	65	68	81	8
max. mean 10-minute speed	57	54	47	43	43	36	39	39	46	44	49	57	5
mean no. of days with gales	5.2	2.7	2.7	0.6	0.5	0.1	0.1	0.2	0.6	1.4	2.4	3.7	20.
WEATHER (mean no. of days with)												1	
snow or sleet	4.6	4.8	3.5	1.4	0.1	0	0	0	0	0	0.4	2.1	16
snow lying at 0900UTC	2.4	1.8	0.4	0.1	0	0	0	0	0	0	0.1	0.5	5.
hail	0.8	1.2	2.8	2.2	1.3	0.5	0.1	0.1	0.3	0.1	0.7	0.6	10
thunder	0	0.1	0.2	0.3	0.9	0.9	0.8	0.6	0.3	0.2	0.2	0.1	4.
fog	2.5	2.3	1.8	2.4	1.6	1.4	1.2	2.8	2.9	2.7	1.8	2.3	25.

APPENDIX IV: NOTIFIABLE ACTIONS

The notifiable actions relating to the habitats that occur within the site are listed below:

- Notifiable Action 1.1 Open Marine Waters, Inlets and Bays, Tidal Rivers and Estuarine Channels
- Notifiable Action 1.2 Mudflats and Sandflats, Sandy Coastal Beaches, Shingle Beaches, Boulder Beaches, Bedrock Shore
- Notifiable Action 1.4 Sand Dunes and Machair
- Notifiable Action 1.6 Rocky Sea Cliffs, Clay Sea Cliffs, Sea Stacks and Islets
- Notifiable Action 2.2 Dry Lowland Grasslands
- Notifiable Action 5.1 Woodlands
- Notifiable Action 5.2 Scrub
- Notifiable Action 6.1 Rivers and Streams
- Notifiable Action 6.3 Marshes and Reedbeds
- Notifiable Action 7.1 Artificial Habitats

OPEN MARINE WATERS, INLETS AND BAYS, TIDAL RIVERS AND ESTUARINE CHANNELS, MARINE CAVES, REEFS, SUBMERGED SAND BANKS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	 Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

OPEN MARINE WATERS, INLETS AND BAYS, TIDAL RIVERS AND ESTUARINE CHANNELS, MARINE CAVES, REEFS, SUBMERGED SAND BANKS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT,	(NO REQUIREMENT TO NOTIFY IF
HERITAGE AND LOCAL GOVERNMENT IS	ALREADY LICENSED BY ANOTHER
REQUIRED TO BE NOTIFIED IN RELATION TO	MINISTER/BODY)
THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED	use of anti-fouling paints containing organic tin
WITHOUT PRIOR CONSENT	commercial harvesting of sea urchins, winkles, or
operation of commercial recreation activities (e.g.	other marine invertebrates.
sailing schools, diving tours, jet ski hire, dolphin	removal of soil, mud, gravel, sand or minerals
watching tours)	use of pesticides or antibiotics
introduction (or re-introduction) into the wild of	operation or extension of aquaculture facilities
plants or animals of species not currently found in the area	dumping or disposal of wastes
collection of species for aquaria	fishing by any type of nets
any other activity of which notice may be given by the Minister from time to time	fishing by pots for lobster, crab, whelk, shrimp and other species
	dredging whether for fishing or for other purposes
	use of hydraulic or suction systems for removing any species or sediments
	placement of any structures or devices on the soil or bed of the sea seaward of high water mark
	use of the soil or bed of the sea for any activity
	cutting or harvesting growing algae (seaweeds)

MUDFLATS AND SANDFLATS, SANDY COASTAL BEACHES, SHINGLE BEACHES, BOULDER BEACHES, BEDROCK SHORES, MARINE CAVES

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

MUDFLATS AND SANDFLATS, SANDY COASTAL BEACHES, SHINGLE BEACHES, BOULDER BEACHES, BEDROCK SHORES, MARINE CAVES

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT operation of commercial recreation activities (e.g. sailing schools, diving tours, jet ski hire, dolphin watching tours)	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) use of anti-fouling paints containing organic tin commercial harvesting of sea urchins, winkles, or other marine invertebrates. removal of soil, mud, gravel, sand or minerals use of pesticides or antibiotics
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area collection of species for aquaria collection of biological samples or organised educational activities where they occur on bedrock shores or boulder beaches	operation or extension of aquaculture facilities dumping or disposal of wastes fishing by any type of nets fishing by pots for lobster, crab, whelk, shrimp and other species dredging whether for fishing or for other purposes
driving vehicles over the area, except over rights of way or over access to licensed aquaculture facilities	use of hydraulic or suction systems for removing any species or sediments
digging, ploughing or otherwise disturbing the substrate	placement of any structures or devices on the soil or bed of the sea seaward of high water mark
alteration of the banks, bed or flow of watercourses	use of the soil or bed of the sea for any activity
any other activity of which notice may be given by the Minister from time to time	cutting or harvesting growing algae (seaweeds)

SAND DUNES OR MACHAIR

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	 Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

SAND DUNES OR MACHAIR

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) construction of fences or embankments removal of soil, mud, gravel, sand or minerals
causing erosion by any means (e.g. driving vehicles, riding horses etc.)	construction of buildings or sewerage facilities construction of roads or car parks or access routes
grazing of livestock above a sustainable density (as defined in approved farm plans)	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities
grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung	
supplementary feeding of stock (e.g. with hay, silage, concentrates, roots etc.)	
cropping or removal of plants	
reclamation, infilling, ploughing or land drainage	
reseeding, planting of trees or any other species	
application of fertiliser, lime or organic materials	
dumping, burning or storing any materials	
use of any pesticide or herbicide	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

ROCKY SEA CLIFFS, CLAY SEA CLIFFS, SEA STACKSAND ISLETS (STACKS, HOLMS AND SKERRIES)

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

ROCKY SEA CLIFFS, CLAY SEA CLIFFS, SEA STACKSAND ISLETS (STACKS, HOLMS AND SKERRIES)

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density (as defined in approved farm plans)	construction of fences or embankments removal of soil, mud, gravel, sand or minerals
grazing by livestock treated within the previous	construction of buildings or sewerage facilities
week with a pesticide which leaves persistent residues in the dung	construction of roads or car parks or access routes
supplementary feeding of stock (e.g. with hay, silage, concentrates, roots etc.)	
reclamation, infilling, rock removal, ploughing or land drainage.	
reseeding, planting of trees or any other species.	
use of any pesticide or herbicide	
burning of vegetation.	
application of fertiliser, lime or organic materials.	
dumping, burning or storing any materials.	
cropping or removal of plants.	
removing ruined buildings alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

DRY LOWLAND GRASSLANDS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a Minister for the Marine and Natural license or consent from another statutory authority (e.g. the local planning authority, the Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

DRY LOWLAND GRASSLANDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung changing of traditional use from hay meadow (to	removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments afforestation
 either grazing or silage making), or from grazing to silage cutting adding lime/adding fertiliser of any sort to areas not previously fertilised/ applying fertiliser which would increase the level of nitrogen in the soil/applying fertiliser which would increase the level of phosphorous in the soil/ applying phosphorous to soils which already have in excess of the REPS index 2 levels mowing grass before the 30th June (<i>Note; if you have been notified that your lands hold breeding corncrakes, or certain rare meadows, special provisions will apply</i>) 	
burning of vegetation /ploughing or cultivation of lands which have not been so managed for the last 20 years	
reclamation, infilling, or land drainage/ reseeding, planting of trees or any other species use of any pesticide or herbicide	
dumping, burning or storing any materials	
alteration of the banks, bed or low of watercourses	
operation of commercial recreation facilities (e.g. pony trekking)/introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

WOODLANDS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in Section B overleaf may, and in most cases do, require a licence or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

WOODLANDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing by livestock	any activity which may cause pollution of the woodland
adding lime	removal of soil, mud, gravel, sand or minerals
adding fertiliser of any sort	developing roads or car parks
reclamation, infilling, ploughing or land drainage	construction of fences, buildings or
reseeding, planting of trees or any other species	embankments
felling of trees, removal of timber	felling trees or reafforestation
removal of foliage, moss or other materials	
killing ivy	
use of any pesticide or herbicide	
dumping, burning or storing any materials	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. bird watching tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

SCRUB

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	 Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

SCRUB

Section A	Section B
Section A THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT grazing of livestock above a sustainable density (as defined in approved farm plans)/grazing by livestock treated within the previous week with a pesticide which leaves persistent residues in the dung supplementary feeding of stock (as defined in approved farm plans) adding lime /adding fertiliser of any sort reclaiming land covered by scrub; if scrub is cut it must be allowed to regrow reclamation, infilling, ploughing or land drainage reseeding, planting of trees or any other species felling of trees, removal of timber removal of foliage, moss or other materials	Section B (NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including golf courses, sports pitches, caravan or camping facilities. any activity which may cause pollution of the site removal of soil, mud, gravel, sand or minerals developing roads or car parks construction of fences, buildings or embankments felling trees or reafforestation
killing ivy	
use of any pesticide or herbicide /dumping, burning or storing any Materials	
alteration of the banks, bed or flow of watercourses	
operation of commercial recreation facilities (e.g. walking tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

RIVERS OR STREAMS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

RIVERS OR STREAMS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or camping facilities.
grazing of livestock above a sustainable density	any activity which might cause pollution of the river or stream
(as defined in approved farm plans) within 30m of the river or stream/grazing by livestock treated	removal of soil, mud, gravel, sand or minerals
within the previous week with a pesticide which leaves persistent residues in the dung within 30m of	developing roads or car parks
the river or stream	construction of fences, buildings or embankments
supplementary feeding of stock within 30m of the	construction or operation of an aquaculture facility. fishing for eels or salmon
river or stream/adding lime within 30m of the river or stream/adding fertiliser of any sort within 30m	bank maintenance and grading
of the river or stream	creation of weirs and dams
extracting water for irrigation or other purposes	
operation of boat angling or shore angling business/ restocking with fish	
reclamation, infilling, ploughing or land drainage within 30m of the river or stream/ reseeding, planting of trees or any other species within 30m of the river or stream/ removal of trees or any aquatic vegetation within 30m of the river/stream/ use of any pesticide or herbicide in the river or stream or within 30m of the river or stream	
dumping rubbish or other materials or disposing of any chemicals or wastes in streams/rivers or into water-courses running into them	
dumping, burning or storing any materials within 30m of the river/stream including the land spreading of used pesticides (e.g. sheep dip)./alteration of the banks, channel, bed or flow of the river or stream	
harvesting or burning of reed or willow.	
causing siltation/ operation of commercial recreation facilities (e.g. bird watching tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time In a very limited number of cases it may be no	

MARSHES AND REEDBEDS

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in <i>Section A overleaf</i> are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	 Please note that the activities listed in <i>Section B</i> overleaf may, and in most cases do, require a license or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

MARSHES AND REEDBEDS

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY)
PROCEED WITHOUT PRIOR CONSENT	developing leisure facilities including golf courses, sports pitches, caravan or
grazing of livestock above a sustainable density (as defined in approved farm plans) within 50m of the marsh or reedbed	camping facilities.
grazing by livestock treated within the previous week with a	any activity which might cause pollution of the marsh or reedbed
pesticide which leaves persistent residues in the dung supplementary feeding of stock within 50m of the marsh or	removal of soil, mud, gravel, sand or minerals
reedbed	developing roads or car parks
adding lime within 50m of the marsh or reedbed adding fertiliser of any sort within 50m of the marsh or reedbed	construction of fences, buildings or embankments
	construction or operation of an aquaculture
extracting water for irrigation or other purposes	facility.
operation of boat angling or shore angling Business	fishing for eels
restocking with fish.	bank maintenance and grading
reclamation, infilling, ploughing or land drainage within 50m of the marsh or reedbed	creation of weirs and dams
reseeding, planting of trees or any other species within 50m of the marsh or reedbed	
removal of trees or any aquatic vegetation within 50m of the marsh or reedbed	
use of any pesticide or herbicide in the marsh or reedbed or within 50m of the marsh or reedbed	
dumping rubbish or other materials or disposing of any chemicals or wastes in marsh or reedbed or into water-courses Running into them.	
dumping, burning or storing any materials within 50m of the marsh or reedbed including the land spreading of used pesticides (e.g. sheep dip).	
alteration of the banks, channel, bed or flow of the marsh or reedbed or of watercourses running into or out of it	
harvesting or burning of reed or willow.	
causing siltation	
operation of commercial recreation facilities (e.g. bird watching tours)	
introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area	
any other activity of which notice may be given by the Minister from time to time	

DITCHES, HEDGES, CEREALS AND INTENSIVE GRASSLANDS, WALLS, BUILDINGS, WASTE GROUND, BARE SOIL, PARKLAND GRASSLAND, BRACKEN, CAVES, OR QUARRIES

Under STATUTORY INSTRUMENT 94 of 1997, made under the EUROPEAN COMMUNITIES ACT 1972 and in accordance with the obligations inherent in the COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 (the Habitats Directive) on the conservation of the natural habitats and species of wild fauna and flora, all persons must obtain the written consent, (in circumstances prescribed at section A and B below) of the Minister for The Environment, Heritage and Local Government before performing any of the operations on, or affecting, the following habitats where they occur on lands / waters within the candidate Special Area of Conservation.

SECTION A	SECTION B
Please note that the activities listed in Section A overleaf are required to be notified to the Minister for The Environment, Heritage and Local Government and should not be undertaken before consent.	Please note that the activities listed in Section B overleaf may, and in most cases do, require a licence or consent from another statutory authority (e.g. the local planning authority, the Minister for the Marine and Natural Resources, or the Minister for Agriculture and Food). If so, these notifiable actions do not apply. However, if such activities are not regulated by another statutory authority, the said activities are required to be notified to the Minister for The Environment, Heritage and Local Government.

DITCHES, HEDGES, CEREALS AND INTENSIVE GRASSLANDS, WALLS, BUILDINGS, WASTE GROUND, BARE SOIL, PARKLAND GRASSLAND, BRACKEN, CAVES, OR QUARRIES

Section A	Section B
THE MINISTER FOR THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT IS REQUIRED TO BE NOTIFIED IN RELATION TO THE FOLLOWING ACTIVITIES AND SUCH ACTIVITIES SHOULD NOT PROCEED WITHOUT PRIOR CONSENT disturbance of bats operation of commercial recreation facilities (e.g. bird watching tours) introduction (or re-introduction) into the wild of plants or animals of species not currently found in the area any other activity of which notice may be given by the Minister from time to time	(NO REQUIREMENT TO NOTIFY IF ALREADY LICENSED BY ANOTHER MINISTER/BODY) developing leisure facilities including sports pitches, caravan or camping facilities. developing roads or car parks construction of fences, buildings and embankments afforestation

APPENDIX V: Compensation and Appeals Procedures

Compensation

The Government is committed, as part of the social partnership process, to the payment of a fair and proper level of compensation to landowners who have lands proposed as part of an SAC or SPA and to other users who have a legal entitlement in the site.

A landowner or user with a legal entitlement may seek compensation for actual losses incurred due to restrictions imposed as a result of designation. Eligible persons should submit to NPWS details of the losses incurred as a result of the inclusion of lands in an SAC/SPA and outlining the basis for the calculations. Documentary evidence of past earnings and the activities that produced these should be included with the claim. Should the applicant be dissatisfied with a compensation offer, the case may be referred to an independent arbitrator who will review the matter and make a final decision.

Where a landowner or user with a legal entitlement is restricted in carrying out an activity on their land or licensed area, the compensation due will exclude any payments that have been attracted under grant schemes.

For farmers, there are two options available for receiving compensation for possible restrictions to their farming practices. Farmers may also receive payments for carrying out actions that enhance a nature conservation area.

Rural Environment Protection Scheme (REPS)

Lands within SACs, SPAs, NHAs or commonages are defined as 'Target Areas' under this scheme. A REPS plan usually covers an entire farm, but a farmer with land in a target area receives a higher payment for that area. Farmers with small areas of land in a designated area can get REPS payments for that part of their farm. In either case, the farmer is subject to certain conditions regarding farming and land use practices, set out in the REPS plan for the farm. REPS is administered by the Department of Agriculture, Food and Forestry.

NPWS Farm Plan Scheme

Where a farmer chooses not to participate in REPS, and NPWS seeks to change the farm operation in some way or to restrict a particular activity, NPWS will pay for preparation of a farm plan. This scheme also applies to land within SACs, SPAs, NHAs and commonages.

An NPWS farm plan will normally be confined just to the designated land and will address the conservation requirements, as well as any costs arising. Payment may also be made for work carried out that enhances the nature conservation value of the designated area. The farmer will have a substantial input into the plan.

A list of trained and approved farm planners is available for farmers to choose from. For further information, contact NPWS.

Appeals Procedure

Objection or appeal can be made against the inclusion of a piece of land in a cSAC or SPA. A person can only make objections if they have a legal interest in the site (i.e. an owner or legal user). They must be made on scientific grounds, e.g. a landowner would show that the relevant habitats/species/geological features were not present in such a condition as to warrant designation. Appeals can also be made for the inclusion of lands. Appeals should be accompanied by a map of the area of concern and be as informative as possible. There are two stages to the appeals process:

Internal Appeals are initially dealt with by regional staff. If necessary, they may refer the case to other NPWS staff. If there is no agreement following the internal appeal, the case becomes an external appeal.

The option of an **External Appeal** is available only where an internal appeal is unsuccessful. If so, the appellant may have the case referred to an Appeals Advisory Board, which is independent of NPWS. A grant to defray the cost of an expert scientific report is available to the appellant. The Board is comprised of equal representation of landowners/users and conservationists, with an independent chairperson. The Board makes a recommendation on each appeal to the Minister who then decides on the outcome of the appeal.

APPENDIX VI: SUMMARY OF FARMING CONDITIONS UNDER REPS

Conditions for the conservation of Sand Dunes & Machair areas to be applied under REPS

General Provisions

The conditions set out in this document are supplementary to the farming conditions for the general REP Scheme for REPS. The conditions for the target areas under Supplementary measure A apply. Planners may seek derogation from the Regional inspector to vary these conditions in individual cases. All REPS plans in respect of NHAs must be approved and signed by the Planning Agency's environmentalist/ecologist.

Detailed Conditions

The conditions applicable to Supplementary Measure A apply; the guidelines set out below are complementary to these conditions.

Description

Sand Dunes and Machairs are coastal habitats consisting of hills and hollows in which unique communities of plants and animals are found in response to the very demanding nature of the dry, windy and salty environment.

Machairs are flat, level plains over lime-rich sands which have evolved in response to a unique interaction between wind, high rainfall and historical land use. They are found only in western Ireland and Scotland.

Farming Conditions Recommended for these Areas:

The primary recommendation is to avoid farming practices that cause environmental damage and all the following recommendations are designed to meet that objective. If a practice is environmentally damaging it must be stopped or modified, but the following are general guidelines and may be superseded by specific recommendations for individual farms. The NPWS of DEHLG or the local Agriculture, Environment and Structures (AES) Division office of DAF should be contacted if the situation on-farm warrants an exception to the general rules.

Grazing Regime

The conditions for Supplementary Measure A areas apply. It should be noted that on sand dunes and machairs, the objective is to maintain extensive agricultural practices, and to prevent a further increase in stock numbers. Cattle stock must be kept at the level the land can support- see also the section on Supplementary Feeding.

Cattle grazing should continue in line with traditional practices. The land should normally be grazed only in winter. However, in areas where summer grazing has traditionally (i.e. over the previous 10 years) been practised, this can continue, provided, of course, that stock levels at all times do not exceed what the land can bear on a sustainable basis. Grazing on young and fore-dune areas should be avoided.

Where conditions warrant, grazing levels must not exceed 1 Livestock Unit (LU) per hectare on a year round average and must never exceed 2 LU at any one time. This change would enable 2 LUs to be overwintered on the sand dune/machair system provided it is deemed to be sustainable by the planner.

The introduction of sheep into areas where they have not been traditionally grazed should be avoided, but areas which have kept sheep traditionally can retain them, though perhaps at a lower level.

Sustainable Stocking Levels:

In general the provisions of Supplementary Measure A apply. Stocking levels for each farm should be set by the REPS planner or the DEHLG (NPWS) planner in the farm plan.. The levels should be set below the level which causes eutrophication, overgrazing or erosion, but still high enough to control the encroachment of coarse vegetation and scrub. Where the stock level set by the planner requires a reduction, this must be achieved within 12 months of the start of the plan. Where the stock level is to increase, this can be spread over the period of the plan, as specified by the planner. The same level will apply for a REPS plan as for an NPWS plan.

The NPWS will prepare a conservation plan to cover all aspects of the SAC in question, including farming. In so far as the farming aspects are concerned, the plan will be prepared in consultation with the DAF in accordance with the terms of these conditions. Where an area conservation plan has been prepared for the SAC in question, this should be used to assist in determining where damage has occurred or is occurring, where damage is moderate, and where damage has not occurred. Official conservation plans, when available, can be obtained from the local office of the NPWS.

Supplementary Feeding

The introduction of supplementary feeding can bring additional nutrients into sand dune and machair areas, and thus bring about a very fundamental change in the vegetation of these areas.

The use of silage and other feed can facilitate excessive stocking levels and may lead to pollution of groundwater. Consequently, the use of any supplementary feeds in areas where it has not been customary over the last ten years may be allowed only in consultation with DAF and DEHLG. Round baled silage can be stored in these areas. Loose silage can only be stored where an approved effluent collection system is in place, and the effluent removed from the machair/sand dune.

No supplementary feeding can take place on young and fore-dune areas.

In machair and grey dune areas where supplementary feed has been used over the last 10 years, it may be continued, provided that:

- The number of LUs fed does not increase;
- The species of stock fed does not change
- The total amount of feed equivalent does not increase;
- The amount of feed does not exceed 3.5 tonnes of silage or 0.75 tonnes of hay per LU;
- No meals and concentrates are fed

However, in exceptional circumstances, such as in unusually severe weather conditions (i.e. when there are heavy snowfalls or floods), and with the agreement of DEHLG, feeding will be permitted. Weanling cattle may be fed small quantities of concentrates.

Cultivation, Reseeding & Pesticides:

Ploughing, harrowing or any other forms of cultivation must be avoided since this will destabilise the dune structure. Small traditional tillage plots on machairs may be retained.

The bringing in of any seeds to these areas will disturb the vegetative balance on which the dune depends and must be avoided. The feeding of hay should only be from round feeders.

The fixed dune parts of sand dune systems are essentially areas with low levels of plant nutrients in the soil and this has contributed to the development of their distinctive flora. These are also areas most used for grazing. However, the spreading of organic (slurry, farmyard manure), or inorganic fertilisers must not take place as the flora in these areas would be damaged.

On machairs, where fertiliser has not been applied in the past, none can be applied now. However, where low levels of phosphorus have traditionally been applied on machairs, this may continue, provided that the soil Phosphorus levels do not increase above their present levels or in any event do not exceed Soil Index 2.

Pesticides & Herbicides

All spraying or broadcast application of herbicides must be avoided, but spot application and wipe on treatment to eradicate docks, thistles and similar noxious weeds can be used.

Animal Treatments

Worm doses may be used normally, but animals which have been given pesticides the residues of which persist in the dung must be kept of the dune for a least a week after treatment.

Dumping & Infilling

The dumping of domestic or industrial refuse, farm wastes, rubble, rock, or any similar materials which could disturb the natural environment by bringing in unsuitable nutrients or unsuitable soils and seeds must be avoided.

APPENDIX VII: NATIONAL PARKS AND WILDLIFE MANAGEMENT STAFF

Conservation Ranger

Cathal Stockdale,
30 Dunbur Glen,
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Phone (0404) 62088.
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District Conservation Officer

Enda Mullen Wicklow Mountains National Park, Kilafin, Laragh, Co. Wicklow. Phone (0404) 45802. Fax (0404) 45055. Email: <u>emullen@duchas.ie</u>

Regional Manager

Deputy Regional Manager

Wesley Atkinson	Pádraig Comerford
Wicklow Mountains National Park,	Wicklow Mountains National Park,
Kilafin,	Kilafin,
Laragh,	Laragh,
Co. Wicklow.	Co. Wicklow.
Phone (0404) 45802.	Phone (0404) 45802.
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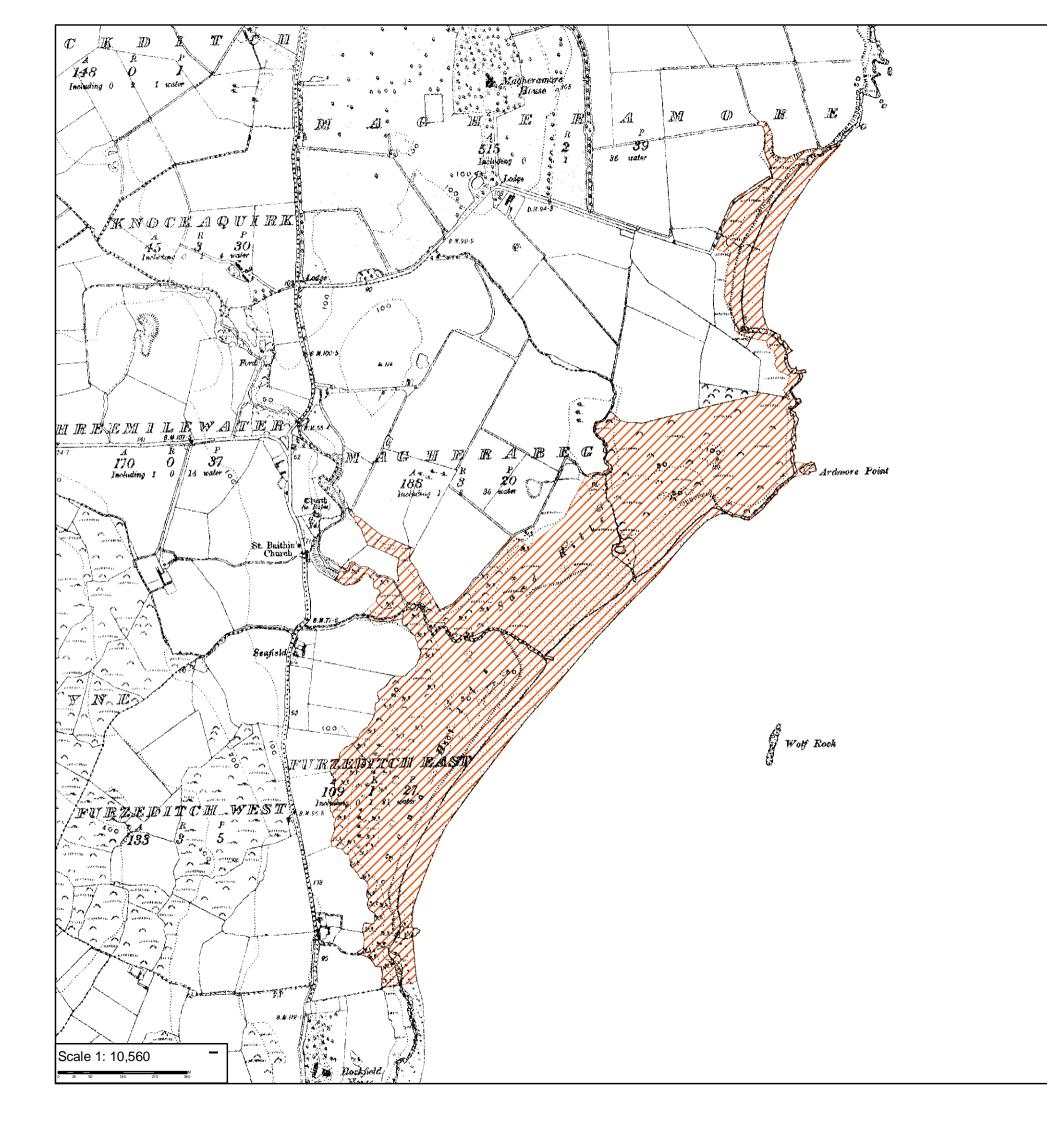
Divisional Manager

Seán Casey	Dr. Linda Patton
Wicklow Mountains National Park	National Parks and Wildlife Service
Kilafin	4 Claremont Rd.
Laragh	(The old Revenue Comm. Office)
Co. Wicklow	Sandymount
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Divisional Ecologist

National Parks and Wildlife

Dept. of Environment, Heritage and Local Government, 7 Ely Place, Dublin 2. Phone Lo Call 1890 202021, (01) 8882000 Fax (01) 8883272 www.npws.ie

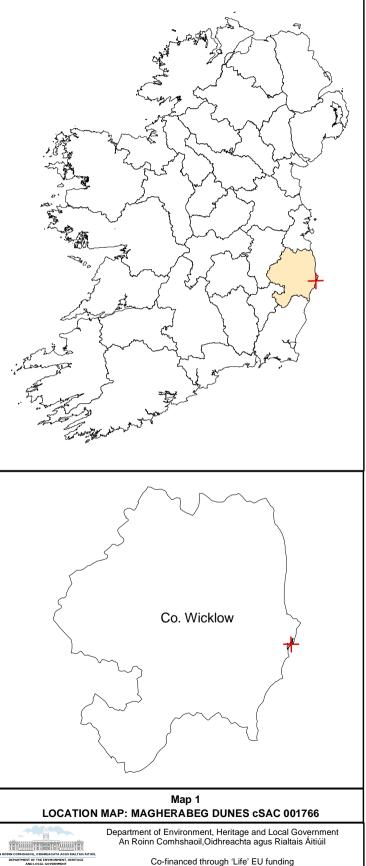


CEANTAR SPEISIALTA CAOMHNAITHE

CANDIDATE SPECIAL AREA OF CONSERVATION

MAGHERABEG DUNES 001766 Version 1.01

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