

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

**Second Report by the United Kingdom under
Article 17**

**on the implementation of the Directive
from January 2001 to December 2006**

Conservation status assessment for :

**H2140: Decalcified fixed dunes with *Empetrum
nigrum***

Please note that this is a section of the report. For the complete report visit <http://www.jncc.gov.uk/article17>

Please cite as: Joint Nature Conservation Committee. 2007. *Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006*. Peterborough: JNCC. Available from: www.jncc.gov.uk/article17

H2140 Decalcified fixed dunes with *Empetrum nigrum*

Audit trail compiled and edited by JNCC and the UK statutory nature conservation agencies Coastal Lead Coordination Network.

This paper and accompanying appendices contain background information and data used to complete the standard EC reporting form (Annex D), following the methodology outlined in the commission document "Assessment, monitoring and reporting under Article 17 of the Habitats Directive, Explanatory Notes and Guidelines, Final Draft 5; October 2006". The superscript numbers below cross-reference to the headings in the corresponding Annex D reporting form. This supporting information should be read in conjunction with the UK approach for habitats (see 'Assessing Conservation Status: UK Approach').

1. National-biogeographic level information

1.1 General description and correspondence with National Vegetation Classification (NVC) and other habitat types

Table 1.1.1 provides a summary description of H2140 and its relations with UK classifications.

Decalcified fixed dunes with *Empetrum nigrum* represent the later, more mature, stages of the well-marked successional sequence characteristic of sand dunes. Exposure to rainfall over long periods means that there is leaching of the surface layers, causing a loss of calcium carbonate and increased soil acidity. Where the shell content of the sand is low, the original calcium carbonate content of the soil will be low and acidic conditions develop more rapidly. This is particularly the case in the north and west, where a combination of a wetter climate and a more widespread occurrence of silica sand encourages the development of more extensive areas of acidic dune vegetation. In such conditions, dune communities tend to be dominated by heather *Calluna vulgaris* and crowberry *Empetrum nigrum*, with the relative abundance of these two species varying with site conditions. In the UK this corresponds to NVC type H11b *Calluna vulgaris* – *Carex arenaria* heath, *Empetrum nigrum* ssp. *nigrum* sub-community.

The nature of dune heath varies considerably depending on physical conditions, degree of leaching, type of substrate, geographic position and grazing intensity. Fixed dune vegetation tends to occur on the larger dune systems, which have the width to allow it to develop. Decalcified fixed dunes with *Empetrum nigrum* tend to occur in mosaics with other habitats, depending on local physical and soil conditions, and often occur in association with 2150 Atlantic decalcified fixed dunes, 2130 Fixed dunes with herbaceous vegetation ("grey dunes"), dune heath, wet heath, 2190 Humid dune slacks, and acidic grassland. The last of these forms transitions with dune heath, and in drier conditions acidic grasslands are often precursors to its development.

Grazing helps to maintain the open nature of the vegetation, which would otherwise develop into scrub and woodland through the process of succession. However, it is vulnerable to overgrazing, and planting of trees can lower the water table, which in turn will suppress open dune heath vegetation.

The Annex I habitat types Decalcified fixed dunes with *Empetrum nigrum* and H2150 Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) are similar in composition. Decalcified fixed dunes with *Empetrum nigrum* have a more restricted distribution, being found mainly in Scotland in relatively wetter and more base-poor conditions; 2150 Atlantic decalcified fixed dunes are more widespread, tolerating a wider range of conditions. At some Scottish sites it is very difficult to allocate stands of dune heath to one Annex I habitat type or the other, as the vegetation forms a continuous spectrum of variation within complex habitat mosaics. The two types may also succeed one another in the same location over time, and vegetation intermediate between NVC types H11a *Calluna vulgaris* – *Carex arenaria* heath, *Erica*

cinerea sub-community and the *Empetrum nigrum* ssp. *nigrum* sub-community (H11b) has been recorded in Scotland.

In Europe, decalcified fixed dunes with *Empetrum nigrum* are restricted to coasts northwards from Denmark. In the UK, decalcified fixed dunes with *Empetrum nigrum* are confined to Scotland, where this type is widespread but local.

Table 1.1.1 Summary description of habitat H2140 and its relations with UK vegetation/habitat classifications

Classification	Correspondence with Annex I type	Comments
NVC	In the UK this corresponds to NVC type: <ul style="list-style-type: none"> H11b <i>Calluna vulgaris</i> – <i>Carex arenaria</i> heath, <i>Empetrum nigrum</i> ssp. <i>nigrum</i> sub-community. 	Some transitions to H11a <i>Calluna vulgaris</i> – <i>Carex arenaria</i> heath, <i>Erica cinerea</i> sub-community are referable to H2140 but hard to distinguish from H2150. The <i>Empetrum nigrum</i> ssp. <i>nigrum</i> sub-community (H11b) has been recorded in Scotland.
BAP priority habitat type	Coastal sand dune.	The BAP priority habitat is broader than H2140 as it encompasses all sand dune types.
CSM reporting categories	Supralittoral sediment.	

2. Range ^{2.3}

2.1 Current range

Range surface area ^{2.3.1.}:

617 km²

Date calculated ^{2.3.2.}:

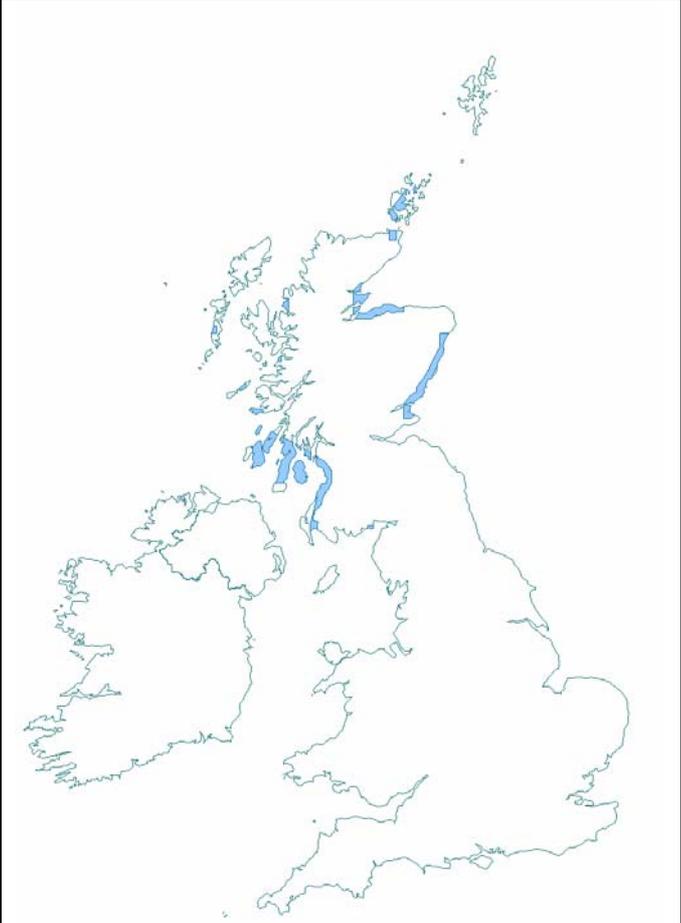
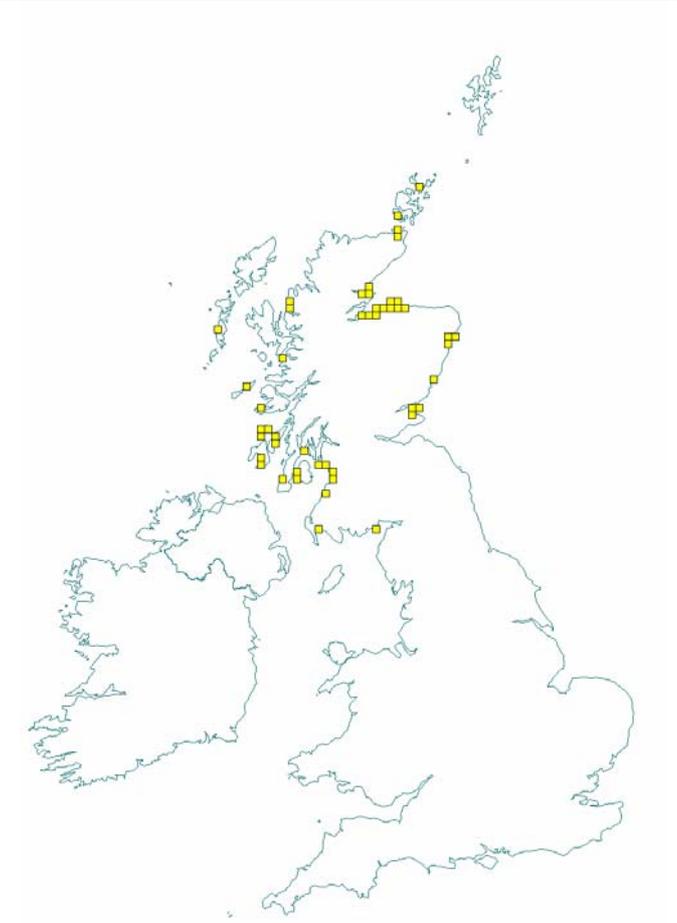
May 2007

Quality of data ^{2.3.3.}:

Moderate

The surface area estimate was calculated within alpha hull software, using extent of occurrence as a proxy measure for range (see Map 2.1.1). The value of alpha was set at 25 km; the alpha hull software used to calculate the surface area of the range could only be clipped to a 10km strip width along the coast. The geomorphological and physical factors influencing the distribution of the habitats are likely to occur only within a far smaller distance of the coastline (at most 1km) and hence the area value has been reduced by a factor of 10 to give a more realistic value for the surface area of the range for these habitats.

Maps 2.1.1 and 2.1.2 show the range and distribution of H2140 in the UK. It is based on records for NVC type H11b, together with other sites where this habitat type is known to occur, including Special Areas of Conservation (SACs) supporting this Annex I type.

Map 2.1.1 Habitat range map ^{1.1} for H2140	Map 2.1.2 Habitat distribution map ^{1.2} for H2140
	
<p>Range envelope shown in blue/grey shade in previous map is a minimum convex polygon constructed using JNCC Alpha Shapes tool (see Technical note I for details of methodology).</p>	<p>Each yellow square represents a 10x10km square of the National Grid and shows the known and/or predicted occurrence of this habitat. 10-km square count: 48</p>

See Section 7.1 for map data sources

2.2 Trend in range since c.1994

Trend in range^{2.3.4}:	Unknown
Trend magnitude^{2.3.5}:	Not applicable
Trend period^{2.3.6}:	1994-2006
Reasons for reported trend^{2.3.7}:	Not applicable

There is no known trend in range. Dargie (2001) speculated that the habitat's absence from Barry Links might be due to fires associated with military activity, though there was no direct evidence other than the species' absence (and its frequency at nearby Tentsmuir) to support this view. Macleod (2004) emphasised that there were significant overall differences in vegetation between the two sites, but conceded that fire could be responsible for these differences.

2.3 Favourable reference range

Favourable reference range^{2.5.1}: 617 km²

Section 3.2.1.3 of 'Assessing Conservation Status: UK Approach' sets out how favourable reference range estimates for habitats have been determined in the UK. Based on this approach, the current surface area, 617 km², has been set as the favourable reference area. Reasons for this are discussed below.

This habitat is found on acidic sand, and has a northerly distribution. It is found exclusively on the Scottish coast. There appears to be some fragmentation of the range, especially on the southern and western Scottish coasts where the constituent dots are isolated.

2.4 Conclusions on range ^{2.6.i}

Conclusion: **Favourable**

There is no evidence that the range of this habitat should be considered unfavourable: there is no evidence to suggest decline. It is therefore assumed that the range is stable and still occupies most or all of its potential natural range, and thus most or all of its favourable reference range.

3. Area ^{2.4}

3.1 Current area

Total UK extent ^{2.4.1}: **3.38 km²**
Date of estimation ^{2.4.2}: **May 2007**
Method ^{2.4.3}: **3 = ground based survey**
Quality of data ^{2.4.4}: **Moderate**

Table 3.1.1 provides information on the area of H2140 in the UK. The extent for Scotland is from the Sand dune vegetation survey of Scotland (Dargie 2000).

Table 3.1.1 Area of H1210 in the UK.

	Area (ha)	Method ^{2.4.3}	Quality of data ^{2.4.4}
England	Not present	-	-
Scotland	338	3	Moderate
Wales	Not present	-	-
Northern Ireland	Not present	-	-
Total UK extent ^{2.4.1}	338	3	Moderate

Method used to estimate the habitat surface area: 1 = only or mostly based on expert opinion; 2 = based on remote sensing data; 3 = ground based survey. Only the most relevant class is given if more than one applies.

Quality of habitat surface area data: 'Good' e.g. based on extensive surveys; 'Moderate' e.g. based on partial data with some extrapolation; 'Poor' e.g. based on very incomplete data or on expert judgement

3.2 Trend in area since c.1994

Trend in area ^{2.4.5}: **Stable**
Trend magnitude ^{2.4.6}: **Not applicable**
Trend period ^{2.4.7}: **1994-2006**
Reasons for reported trend ^{2.4.8}: **Not applicable**

There is no evidence to show decline, so the range is assumed to be stable. In some parts of its range this vegetation is difficult to distinguish from closely related types such as the H11a *Erica cinerea* subcommunity, and specialist monitoring would be required to report on future trends.

3.3 Favourable reference area

Favourable reference area ^{2.5.2}: **3.4 km²**

Section 3.2.2.3 of 'Assessing Conservation Status: UK Approach' sets out how favourable reference area estimates have been determined in the UK. Based on this approach, the current extent, which is approximately 3.4 km², has been set as the favourable reference area. Reasons for this are discussed below.

NVC type H11b is restricted to acidic sands (pH of less than 5), and only develops on stretches of coastal dunes in Scotland which have formed by the accretion of quartzitic material or where more calcareous deposits have been eluviated (Rodwell 1991). Hence, H2140 is restricted to locations where geomorphological conditions have allowed the development of acid sand.

The habitat is scarce, with only 338 ha in Scotland, but has probably always been limited to this part of the UK.

3.4 Conclusions on area covered by habitat

Conclusion^{2.6.ii}: Favourable

There is no evidence that the area of this habitat should be considered unfavourable: there is no evidence to suggest decline. It is therefore assumed that the area is stable and still occupies most or all of its potential natural area, and thus most or all its favourable reference area.

4. Specific structures and functions ^(including typical species)

4.1 Main pressures ^{2.4.10}

The following factors affecting coastal sand dunes are covered in the *Habitat Action Plan for Coastal sand dunes* (UKBAP website), making allowance for those likely to be relevant to H2140. The main pressures affecting H2140 are:

- Grazing (**101 Modification of cultivation practices, 140 Grazing, 141 abandonment of pastoral systems**)

In the absence of human interference, most stable dunes, with the exception of those experiencing severe exposure, would develop into scrub and woodland. The preponderance of grassland and heath vegetation on British dunes is due to a long history of grazing by livestock. Continued grazing is normally necessary to maintain the typical fixed dune communities, but over-grazing, particularly when combined with the provision of imported feedstuffs, can have damaging effects. A more widespread problem is under-grazing, leading to invasion by coarse grasses and scrub, though rabbits are locally effective in maintaining a short turf. Parts of some stabilised dune systems have been entirely converted to agricultural use, resulting in almost total loss of the conservation interest.

- Recreation (**622 walking, horse riding and non-motorised vehicles, 623 motorised vehicles, 601 golf course**)

Recreation is a major land use on sand dunes. Many dune systems are used extensively by holiday-makers, mostly on foot but also for parking cars and in some cases for driving four-wheel-drive vehicles or motorcycles. Moderate pressure by pedestrians may cause little damage, and may even help to counteract the effects of abandonment of grazing. However, excessive pedestrian use, as on routes between car parks and beaches, and vehicular use in particular, have caused unacceptable erosion on many dune sites. Many dune systems also support one or more golf courses. Here much of the original vegetation may be retained in the rough, but the communities of the fairways, and particularly the greens and tees, are often severely modified by mowing, fertilising and re-seeding. Fragmentation of dune systems by golf courses makes grazing management much more difficult.

- Sea defences and stabilisation (**871 sea defence or coast protection works**)

Many dune systems are affected by sea defence works or artificial stabilisation measures such as sand fencing and marram planting. These practices are particularly prevalent on the more developed coastlines where drifting sand may be perceived as a threat to urban or holiday developments. While carefully applied dune management measures can help to counteract severe erosion which may threaten the existence of a dune, engineered defence systems usually reduce the biodiversity inherent in the natural dynamism of dune systems, and may cause sediment starvation down-drift. UK dunes as a whole suffer from over-stabilisation and poor representation of the mobile phases.

- Other human influences (**302 removal of beach material, 400 Urbanised areas, human habitation, 410 Industrial or commercial areas, 422 disposal of industrial waste, 421 disposal of household waste**)

Sand dunes have also been affected in the past by housing developments, industrial development, waste tips on or adjacent to them, fly tipping and sand extraction. Indirect effects on dunes include atmospheric nutrient deposition, and coastal squeeze due to rising sea levels and increased storminess. The potential for dredging and marine aggregate extraction, through the disruption of coastal processes, to have cumulative and long-term effects on sand dunes is an area for further investigation.

- **Forestry (162 Artificial planting)**

Afforestation of dunes is not as prevalent in Britain as it is in parts of continental Europe, but in a few locations it has had a major effect on large areas of dune landscape. Some sites hold large conifer plantations which have the effect of suppressing the dune vegetation communities and lowering the water table. However, both routine fellings and permanent removal of conifers have shown that vegetation close to the original can be restored in a relatively short time.

- **Air pollution (702 air pollution)**

Based on an assessment of the exceedence of relevant critical loads (see technical note II), air pollution is not considered to be a potentially significant pressure to the structure and function of this habitat. However, the Habitat Action Plan (HAP) for Coastal sand dunes considers atmospheric nutrient deposition as a factor affecting the habitat.

4.2 Current condition

4.2.1 Common Standards Monitoring (CSM) condition assessments

Condition assessments based on CSM (see <http://www.jncc.gov.uk/page-2199>) provide a means to assess the structure and functioning of H2140 in the UK. The following attributes were examined for all CSM assessments relevant to the habitat:

- Habitat extent.
- Vegetation structure: range of zones of vegetation.
- Vegetation structure.
- Vegetation composition.
- Other negative indicators (negative indicator species and signs of disturbance).

SAC condition assessments

Table 4.2.1 and Map 4.2.1 summarise the CSM condition assessments for UK SACs supporting habitat H2140. These data were collated in January 2007. The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed:

- 86% of the area and 50% of the number of assessments was Favourable; and
- at least 86% of the total UK habitat area was in Favourable condition.

Table 4.2.1 CSM condition assessment results for UK SACs supporting H2140. See notes below table for details. Information on the coverage of these results is given in Section 7.2

Condition	Condition sub-categories	Area (ha)	Number of site features
Unfavourable	Declining		
	No change	61	1
	Unclassified		
	Recovering		
	Total	61	1
	<i>% of all assessments</i>	14%	50%
	<i>% of total UK resource</i>	14%	unknown
Favourable	Maintained	367	1
	Recovered		
	Unclassified		
	Total	367	1
	<i>% of all assessments</i>	86%	50%
	<i>% of total UK resource</i>	86%	unknown

Notes

1. Data on features that have been partly-destroyed have been excluded from this table because they are not relevant to the consideration of present condition.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: these include additional and some up-date data from those used in the six year report produced by JNCC. (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC)
3. Only assessments made for qualifying interest features on SAC have been included in this analysis.
4. Area figures for CSM assessments have been calculated using the data presented on the standard Natura 2000 data forms submitted to the EU.

Site of Special Scientific Interest (SSSI)/Area of Special Scientific Interest (ASSI) condition assessments

SSSI/ASSIs CSM condition assessments are not relevant as most or all the resource is on SACs.

Current Condition of H2140 based on CSM condition assessments (See Sections 4.2 and 7.2 for further information)		
Map 4.2.1 SAC assessments	Map 4.2.2 Assessments strongly indicative of the condition on SSSI/ASSIs	Map 4.2.3 Assessments weakly indicative of the condition on SSSI/ASSIs
	Not applicable	Not applicable
<p>Key</p> <p><u>Red</u> = unfavourable, i.e. the square contains at least one SAC where this habitat feature is present and has been judged to be unfavourable</p> <p><u>Green</u> = favourable, i.e. the square contains at least one SAC where this habitat feature is present and has been assessed as Favourable but there are no Unfavourable SAC features</p> <p><u>Blue</u> = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported</p> <p><u>Transparent</u> = SAC feature not present, i.e. the square does not contain any SAC features of this habitat type</p>	<p>Key*</p> <p><u>Green</u> – 80 – 100% of assessed features on 10km square are Favourable</p> <p><u>Yellow</u> - 50 – 80% of assessed features on 10km square are Favourable</p> <p><u>Orange</u> - 20 – 50% of assessed features on 10km square are Favourable</p> <p><u>Red</u> - 0 – 20% of assessed features on 10km square are Favourable</p> <p>*This is the same key as was used for JNCC CSM Report 2006</p>	

4.3 Typical species

Typical species^{2.5.3}: **None used**
Typical species assessment^{2.5.4}: **Not applicable**
No typical species have been assessed.

4.4 Conclusions on specific structures and functions (including typical species)^{2.6.iii}

Conclusion: Unfavourable – Inadequate

The EC Guidance states that where the specific structures and functions of a habitat are intermediate between “good with no significant pressures” and “bad with more than 25% of the habitat area unfavourable as regards its specific structures and functions”, the conclusion should be Unfavourable – Inadequate. In the UK, this was generally taken to mean that 5-25% of the habitat area was in unfavourable condition.

SAC condition assessments for H2190 show that, in terms of area, 86% are classed as Favourable, which represents 86% of the total UK resource. There is no anticipated deterioration of the habitat.

5. Future prospects

5.1 Main factors affecting the habitat

5.1.1 Conservation measures

- Protection within designated sites

All the resource of H2140 lies within SACs with management measures specifically aimed at maintaining and enhancing the features for which they are designated, and to address some of the pressures listed within section 4.1 and the future threats listed in section 5.1.2.

- UK BAP

The habitat is covered by the *Coastal sand dunes action plan* under the UK Biodiversity Action Plan (see <http://www.ukbap.org.uk>), as well as under country and local biodiversity action plans and strategies, with targets to maintain, improve, restore and expand the resource.

5.1.2 Main future threats^{2.4.11}

The most obvious major future threats to H2140 are listed below, several of which are referred to in Section 4.1.

- Grazing (**101 Modification of cultivation practices, 140 Grazing, 141 abandonment of pastoral systems**)
- Recreation (**622 walking, horse riding and non-motorised vehicles, 623 motorised vehicles, 601 golf course**)
- Sea defences and stabilisation (**871 sea defence or coast protection works**)
- Other human influences (**302 removal of beach material, 400 Urbanised areas, human habitation, 410 Industrial or commercial areas, 422 disposal of industrial waste, 421 disposal of household waste**)
- Forestry (**162 Artificial planting**)
- Air pollution (**702 air pollution**)
- Climate change (**900 erosion**)

Based on the literature review (Technical note IV) climate change is considered a major threat to the future condition of this habitat especially in the long term. However, there is a high degree of uncertainty in defining future climate threats on habitats and species due to uncertainty in: future greenhouse gas emissions; the consequential changes in climatic features (for instance temperature, precipitation CO₂ concentrations); the responses of habitats and species to these changes (for instance location, phenology,

community structure) and the role of other socio-economic drivers of environmental change. The scale of change in habitats and species as a result of climate change will vary across ecosystems. Small changes in the climate are more likely to have a substantial impact on habitats and species which exist within a narrow range of environmental conditions. The future impacts of climate change on UK biodiversity will be exacerbated when coupled with other drivers of environmental change.

5.2 Future condition (as regards range, area covered and specific structures and functions)

5.2.1 CSM condition assessments

The CSM condition assessments reported in Sections 4.2.1-2 provide a basis to predict the potential future condition of H2140 in the UK. This involved treating all assessments currently identified as either Favourable or Unfavourable recovering as future-Favourable: remaining categories were treated as future-Unfavourable – see Table 5.2.1.1. There are a number of caveats to this approach, which are set out beneath this table.

Table 5.2.1 Predicted future condition of UK SACs supporting H2140 based on current CSM condition assessments. See notes below table for details. Information on the coverage of these results is given in Section 7.2

Future condition	Present condition	Area (ha)	Number of site features
Future-unfavourable	Unfavourable declining		
	Unfavourable no change	61	1
	Unfavourable unclassified		
	Total	61	1
	<i>% of assessments</i>	14%	50%
	<i>% of total UK extent</i>	14%	Unknown
Future-favourable	Favourable maintained	367	1
	Favourable recovered		
	Unfavourable recovering		
	Favourable unclassified		
	Total	367	1
	<i>% of assessments</i>	86%	50%
	<i>% of total extent</i>	86%	Unknown

Note that the scenario presented above is based on the same information as used to construct the Table in section 4.1. It is based on the following premises:

- (i) the Unfavourable-recovering condition assessments will at some point in the future become Favourable;
- (ii) all Unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;
- (iii) sympathetic management will be sustained on sites already classified as Favourable and these will not be seriously damaged by any unforeseen events.

IMPORTANT NOTE: We do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in 'Favourable' condition being attained.

SAC condition assessments

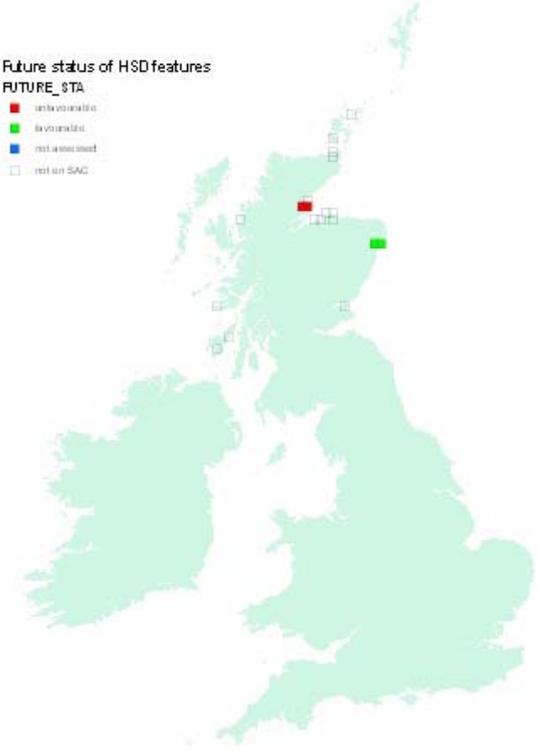
Table 5.2.1 and Map 5.2.1 summarise the predicted potential future condition of H2140 on UK SACs. This is based on the approach described above. The maps give an impression of the overall spread of where future-Unfavourable and future-Favourable sites are predicted to occur (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed:

- 86% of the area and 50% of the number of assessments fall within the future-Favourable category; and
- at least 86% of the total UK habitat area falls within the future-Favourable category.

SSSI/ASSI condition assessments

SSSI/ASSIs CSM condition assessments are not relevant as most or all the resource is on SACs.

Predicted Future Condition of H2140 based on CSM condition assessments (See Sections 5.2 and 7.2 for further information on these maps)

Map 5.2.1 SAC assessments	Map 5.2.2 Assessments strongly indicative of the condition on SSSI/ASSIs	Map 5.2.3 Assessments weakly indicative of the condition on SSSI/ASSIs
	<p>Not applicable</p>	<p>Not applicable</p>

<p>Key <u>Red</u> = <u>future-Unfavourable</u>, i.e. the square contains one or more SACs where this habitat feature is present and has been predicted to be future-unfavourable <u>Green</u> = <u>future-Favourable</u>, i.e. the square contains at least one SAC where this habitat feature is present and has been predicted to be future-favourable <u>Blue</u> = <u>SAC not assessed</u>, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported <u>Transparent</u> = <u>SAC feature not present</u>, i.e. the square does not contain any SAC features of this habitat type</p>	<p>Key* <u>Green</u> - 80 – 100% of assessed features on 10km square are Favourable <u>Yellow</u> - 50 – 80% of assessed features on 10km square are Favourable <u>Orange</u> - 20 – 50% of assessed features on 10km square are Favourable <u>Red</u> - 0 – 20% of assessed features on 10km square are Favourable *This is the same key as was used for JNCC CSM Report 2006</p>
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5.3 Conclusions on future prospects (as regards range, area covered and specific structures and functions)

Conclusion^{2.6.iv}: Unfavourable – Inadequate but improving

The EC Guidance states that where habitat prospects are intermediate between “good with no significant impacts from threats expected and long-term viability assured” and “bad with severe impacts from threats expected and long-term viability not assured”, the judgement should be Unfavourable – Inadequate. In the UK, this was generally taken to mean that range and/or area are stable or decreasing, and between 75-95% of the habitat area is likely to be in favourable condition in 12-15 years.

CSM site condition assessments, where available, show that a large part (86%) of this habitat is predicted to be in Favourable condition, which represents 86% of the total UK resource. Both the range and area are considered to be Favourable and the future threats are not expected to reduce them in the foreseeable future. The UK BAP, working towards enhancing future viability, has targets to bring the dune systems into Favourable or recovering condition by 2010 while maintaining the current extent. Given progress already made and some additional recovery once further conservation measures are put into place, the expectation is that less than 25% of the habitat will be in Unfavourable condition in the next 10-15 years.

6. Overall conclusions and judgements on conservation status^{2.6}

Conclusion^{2.6}: Unfavourable – Inadequate but improving

On the basis of the structure and function and future prospects assessments, the overall conclusion for this habitat feature is Unfavourable – Inadequate but improving.

Table 6.1 Summary of overall conclusions and judgements

Parameter	Judgement	Grounds for judgement	Confidence in judgement*
Range	Favourable	Current range is stable and not less than the favourable reference range.	1
Area covered by habitat type within range	Favourable	Current extent is stable and not less than the favourable reference area.	2
Specific structures and functions (including typical species)	Unfavourable – Inadequate	Structures and functions considered to be intermediate between “good with no significant pressures” and “more than 25% of the habitat area unfavourable as regards its specific structures and functions”.	2
Future prospects (as regards range, area covered and specific structures and functions)	Unfavourable – Inadequate but improving	Habitat prospects over the next 12-15 years considered to be good with no significant impacts from threats expected and long-term viability assured. Measures are in place and planned to address threats to future structure and function for the overall UK resource.	2
Overall assessment of conservation status	Unfavourable – Inadequate but improving	On the basis of the structure and function and future prospects assessments, the overall conclusion for this habitat feature is Unfavourable – Inadequate but improving.	2

Key to confidence in judgement: 1 = High; 2 = Medium; 3 = Low

7. Annexed material (including information sources used 2.2)

7.1 References

AIR POLLUTION INFORMATION SYSTEM. 2004. www.apis.ceh.ac.uk

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7.2 Further information on CSM data as presented in Sections 4.2 and 5.2

Table 7.2.1 Summary of the coverage of the data shown in Tables 4.2.1 and 5.2.1

Data	Value
Number of SACs supporting feature (a)	2
Number of SACs with CSM assessments (b)	2
% of SACs assessed (b/a)	100
Extent of feature in the UK – hectares (c)	428
Extent of feature on SACs – hectares (d)	428
Extent of features assessed – hectares (e)	428
% of total UK hectarage on SACs (d/c)	100
% of SAC total hectarage that has been assessed (e/d)	100
% of total UK hectarage that has been assessed (e/c)	100

Notes

1. Extent of features on SACs (d) includes only those features that have been submitted on the official Natura 2000 data form as qualifying features. This figure is based on the habitat extent figures presented on standard Natura 2000 data forms.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: these include additional and some up-date data from those used in the six year report produced by JNCC (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC).

Table 7.2.2 Summary of grid square map data shown in Maps 4.2.1-3 and 5.2.1-3

Status	Number of squares	Proportion of all squares
Current – Unfavourable (red)	2	11%
Current – Favourable (green)	2	11%
On SAC but not assessed (blue)		%
Not on SAC (transparent)	15	79%
Total Number of 10km squares (any colour)	19	
Future – Unfavourable (red)	2	11%
Future – Favourable (green)	2	11%