

**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 :  
H2250: Coastal dunes with *Juniperus* spp.**

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

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## H2250 Coastal dunes with *Juniperus* spp.

*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 H2250 and its relations with UK classifications.

This habitat type comprises common juniper *Juniperus communis* scrub on coastal sand dunes in a variety of situations. Both prostrate and erect forms of juniper can be found. Stands are usually very small and are intimately mixed with other Annex I habitat types, including dune grassland and heath. There is complete range from discrete stands to more scattered and occasional individuals, which occur within habitat types defined as fixed dunes.

Coastal dunes with juniper *Juniperus* spp. are widespread but uncommon on the coasts of Europe. Northern variants of the community with common juniper *Juniperus communis* occur in Britain and Denmark, while different species of juniper occur on Iberian and Mediterranean coasts. Coastal dunes with juniper *Juniperus* spp. are rare in the UK. Ten localities, all in Scotland, are known, of which three are noteworthy.

**Table 1.1.1** Summary description of habitat H2250 and its relations with UK vegetation/habitat classifications.

Classification	Correspondence with Annex I type	Comments
BAP priority habitat type	Coastal sand dunes	This HAP encompasses all the other dune annex I habitats and is therefore much broader than H2250.


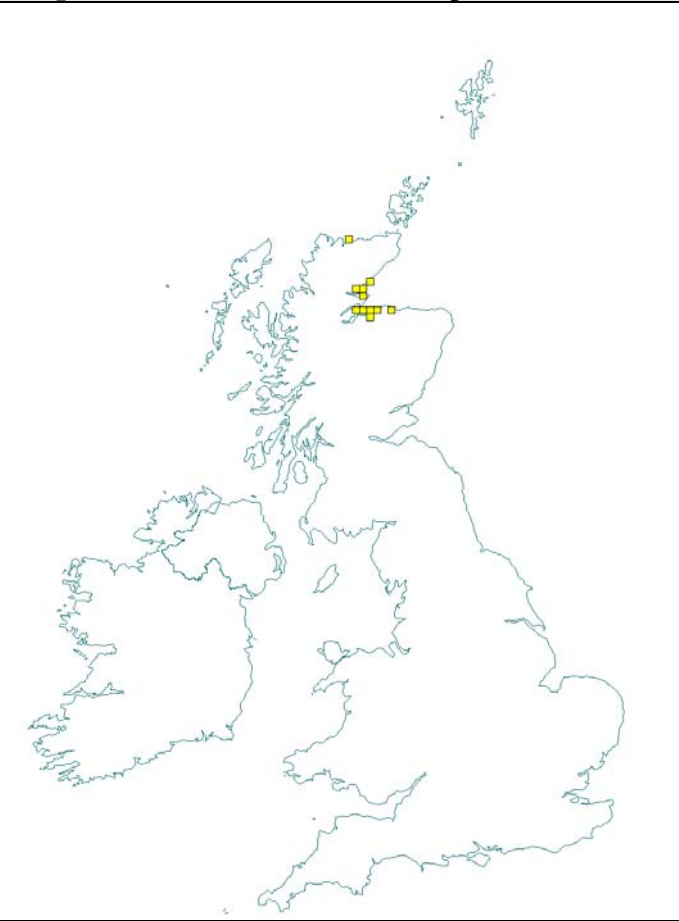
### 2. Range<sup>2.3</sup>

#### 2.1 Current range

**Range surface area<sup>2.3.1</sup>:** 106 km<sup>2</sup>  
**Date calculated<sup>2.3.2</sup>:** May 2007  
**Quality of data<sup>2.3.3</sup>:** 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 H2250 in the UK. The map shows the known distribution of this habitat type, including Special Areas of Conservation (SACs) supporting this Annex I type. Dargie (2000) surveyed all dunes in Scotland, and located all known records of dune Juniper outside the two SACs.

Map 2.1.1 Habitat range map <sup>1.1</sup> for H2250	Map 2.1.2 Habitat distribution map <sup>1.2</sup> for H2250
	
<p>Range envelope shown in blue/grey shade in above 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: 11</p>

See section 7.1 for map data sources

## 2.2 Trend in range since c.1994

**Trend in range<sup>2.3.4</sup>:** Stable  
**Trend magnitude<sup>2.3.5</sup>:** Not applicable  
**Trend period<sup>2.3.6</sup>:** 1994-2006  
**Reasons for reported trend<sup>2.3.7</sup>:** Not applicable

This habitat is considered to be stable and has been so for the last 50 years.

## 2.3 Favourable reference range

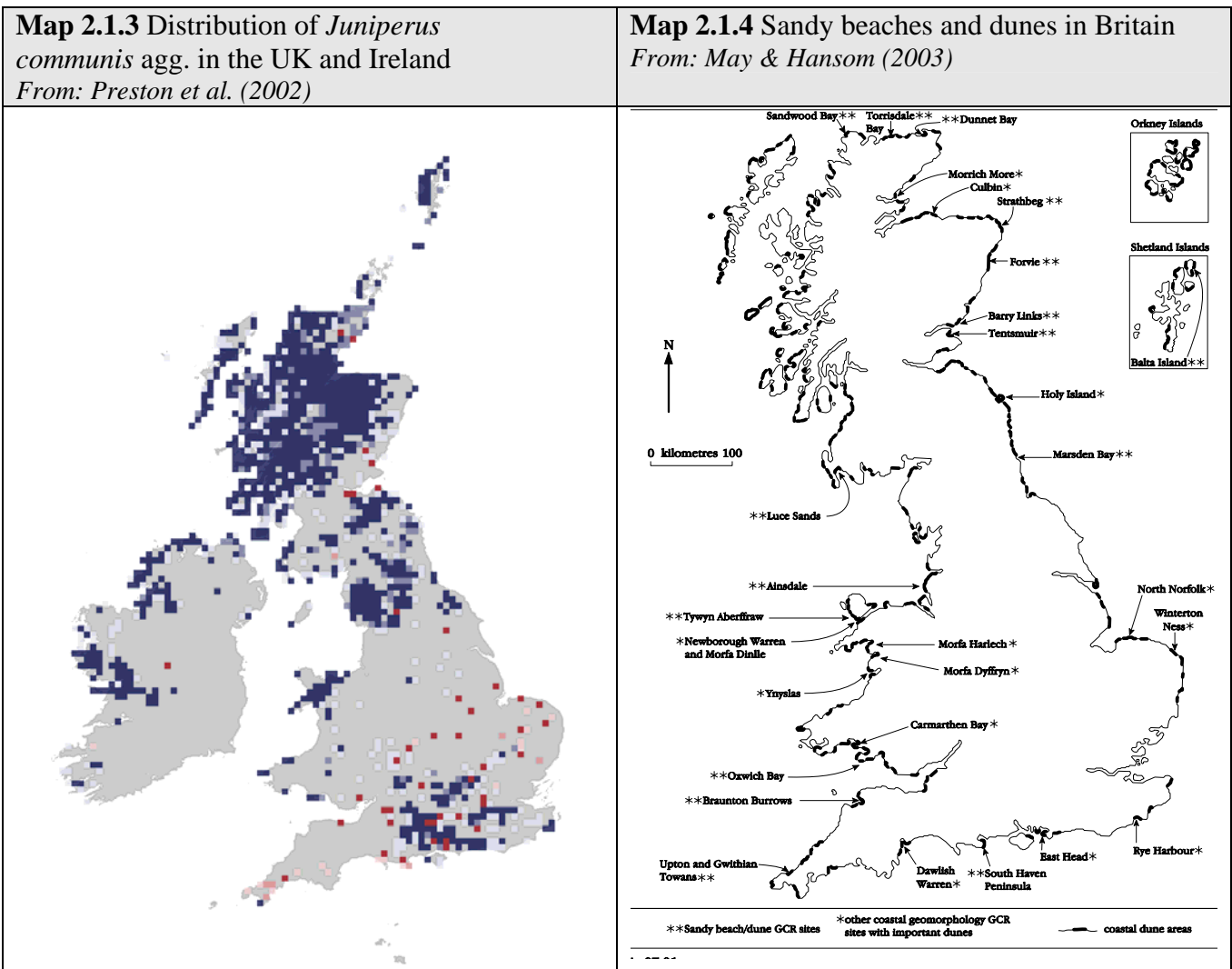
**Favourable reference range<sup>2.5.1</sup>:** 106 km<sup>2</sup>

The overlap between distributions of *Juniperus communis* agg. and sand dunes is limited on the Scottish mainland, being restricted to a small proportion of the north coast and the Moray Firth, with some potential in north-west Wales and the English Solway coast. The map above shows the distribution of Juniper aggregate; much of the juniper in the north and west, and almost all of that on the offshore islands, is the dwarf form *Juniperus communis nana*, which is not covered by this habitat type. Beyond

the resolution of these maps the proximity of 'woodland' juniper to sand dunes is unknown, and the potential may be much more limited than the maps suggest.

Work in Denmark (Christensen & Johnsen 2001) suggests that distribution could be restored to a former extent by reducing grazing. Reducing grazing will generally enhance the survival of young juniper but a certain level of disturbance is required in many habitats to permit establishment (though this has not been confirmed for dunes). Any former Scottish extent may have been no greater than its present distribution, but experimental use of exclosures at the Morrich More, the main UK site for this vegetation, suggests that regeneration and even growth may be restricted by the ensuing rank grassland in the absence of grazing, though some healthy juniper has been noted elsewhere on the site in the presence of rank vegetation (Peter Wortham, *pers. comm.*).

Considering the current range and potential range, it appears that the current range occupies most of its potential natural range. It seems that this habitat, which has remained stable for the past 50 years, is naturally scarce in the UK in terms of range and that its current range is probably viable. The current range is therefore taken to equate the favourable reference range. There is a concern that the Invernaver site on the north coast is isolated from the rest of the range, but it is protected by an SAC and well monitored.



1987-1999 Native	
1970-1986 Native	
Pre-1970 Native	
1987-1999 Alien	
1970-1986 Alien	
Pre-1970 Alien	

## 2.4 Conclusions on range

**Conclusion<sup>2.6.i</sup>:** **Favourable**

In the absence of any information to the contrary, the habitat is regarded as stable (loss and expansion in balance). H2250 is considered to be occupying much of its potential natural range, and that the current range is not smaller than the favourable reference range.

## 3. Area<sup>2.4</sup>

### 3.1 Current area

**Total UK extent<sup>2.4.1</sup>:** **c. 0.2km<sup>2</sup>**

**Date of estimation<sup>2.4.2</sup>:** **May 2007**

**Method<sup>2.4.3</sup>:** **3 = ground based survey**

**Quality of data<sup>2.4.4</sup>:** **Moderate**

Table 3.1.1 provides information on the area of H2250 in the UK. The above figure is based on an estimate of the extent of this habitat within the two candidate SACs selected for this Annex I type. It excludes very small stands which have been recorded at several other locations. For much of its extent, this vegetation exists within other Annex I types and is thus difficult to measure in terms of area.

**Table 3.1.1** Area of H2250 in the UK.

	Area (ha)	Method <sup>2.4.3</sup>	Quality of data <sup>2.4.4</sup>
<b>England</b>	Not present	-	-
<b>Scotland</b>	c. 20	3	Moderate
<b>Wales</b>	Not present	-	-
<b>Northern Ireland</b>	Not present	-	-
<b>Total UK extent<sup>2.4.1</sup></b>	c. 20	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<sup>2.4.5</sup>:** **Stable**

**Trend magnitude<sup>2.4.6</sup>:** **Not applicable**

**Trend period<sup>2.4.7</sup>:** **1994-2006**

**Reasons for reported trend<sup>2.4.8</sup>:** **Not applicable**

This habitat is considered to be Stable and has been so for the last 50 years.

### 3.3 Favourable reference area

**Favourable reference area<sup>2.5.2</sup>:** **0.23 km<sup>2</sup>**

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 favourable reference range has been identified as more than 10% below the current extent. Reasons for this are discussed below.

The potential area for this habitat is where stands of *Juniperus communis* agg. can occur on sand dunes. As for range, this is limited by the distribution of Junipers and the occurrence of sand dunes. It is restricted to the Moray Firth and a small portion of the north coast of Scotland as the north and west coasts are dominated by *J. communis nana*, which is not referable to H2250.

The current area is very scarce, as the habitat is limited to two main sites in Scotland and some scattered occurrences on both coasts of the Moray Firth. This very limited extent makes existing patches vulnerable to catastrophic events, especially as some records are very limited in terms of area, sometimes even to a single bush of Juniper. Dargie (2000) assumes that “[tall juniper occurrences in the Moray Firth] *probably represent relict populations from a former larger expanse which has been reduced by grazing, burning and wood collection over a considerable time. Even at the Morrich More there are major spatial differences in the density of tall juniper. High densities are only present in the east of the site but small patches extend almost to the western edge of the central strandplain and also well to the north. Fires resulting from military activities have almost certainly destroyed large quantities of tall juniper on the western half of the site where targets are concentrated. Even here prostrate forms remain moderately common in wetter habitats where fire impacts will have been greatly reduced.*” Presumably, there have been extensive historical losses of area of H2250, leading to the current fragmented state of the habitat. This current state is not the natural state, but the result of human action over time. It is thought that the constituent patches may well be too small and isolated to be viable.

Dargie (2000) has recorded all known occurrences of Juniper on sand dunes outside SACs: North Brora, Coul Links to Embo, Nigg, East Nairn and Culbin, East Burghhead Bay, and East Lossiemouth. Most of the H2250 area is found in the two SACs (99%) and the above occurrence are small patches at best, sometimes a few individuals only. To ensure viability, it is considered necessary that these scattered occurrences are expanded to 0.5 ha at each site, which amounts to a 3 ha increase overall. This represents a 15% addition to the current area.

### 3.4 Conclusions on area covered by habitat

**Conclusion<sup>2.6.ii</sup>: Unfavourable – Bad**

The current area of H2250 is very scarce and, excepting the two SACs, the occurrences are barely more than individual junipers scattered along the Moray Firth coast. Although it has been stable for 50 years, this area is believed to be unviable because it is overly fragmented and exposed to catastrophic events. The current area is judged to be more than 10% below the favourable area and should be expanded by 15%.

## 4. Specific Structures and Functions (including typical species)

### 4.1 Main pressures <sup>2.4.10</sup>

The factors affecting coastal sand dunes are covered in the Action Plan for Coastal sand dunes (UK Biodiversity Action Plan (BAP) website). The main pressures affecting H2250 are:

- **Grazing and browsing (101 Modification of cultivation practices, 140 Grazing)**

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. Disturbance from large grazing animals or other agency is required for germination, but this is present on many dunes near other juniper, with no colonisation of the dunes. There is no evidence of juniper being damaged by heavy grazing at either of its locations, both of which

have had localised heavy grazing in the last ten years. Browsing and grazing clearly affect the vegetation but results from Morrich More exclosures suggest that a certain level is not only desirable but essential to prevent younger stems and lower branches from becoming concealed beneath rank grasses.

- **Military use: accidental fires (730 Military manoeuvres)**

One of the two sites, the Morrich More, includes land used by the Ministry of Defence (MOD) as a bombing range. Though it is theoretically possible for the juniper to be damaged or even destroyed by one of the occasional fires that are inevitable on a bombing range, there is high awareness of the importance of the juniper within MOD and it is likely that protection of the juniper area would be a high priority, though no action in respect of the juniper is specified in the RAF Tain Conservation Management Plan for the site.

The other site, Invernaver, was regularly burned in the past, and the current respite may be temporary. Though the area where the juniper occurs has never been actively burned, fire could spread, but the juniper has clearly survived all fire in the past.

- **Infestation by *Phomopsis juniperovora* (973 introduction of disease)**

Junipers are vulnerable to infestation by pathogenic fungi, especially juniper blight (*Phomopsis juniperovora*) which infect the new growth, which gradually dies. The Morrich More juniper has many 'browned' stems and some trees that are clearly dead. Though the presence of the common fungal pathogen *Phomopsis juniperivorus* has been confirmed, there is no direct evidence that the fungus is responsible for the dead trees and damaged branches. Further investigations are being conducted and the situation is being monitored. The Invernaver juniper does not display this browning of branches and is believed to be healthy. Some of the juniper at the Morrich More and Dornoch is affected by a brown discolouration of leaves, affecting whole branches and (more rarely) whole plants. This was initially attributed to the foliar pathogenetic fungus *Phomopsis juniperovora* and/or root damage from *Phytophthora*, but the evidence for either is inconclusive, and the vegetation seemed to have recovered slightly (visual assessment pending more systematic investigation) by summer 2006. Even if either or both was present, it is unclear whether the fungi are causing the moribund vegetation or merely present on plants or parts of plants that were already in decline. A programme of detailed monitoring is already in progress at the Morrich More.

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

Based on an assessment of the exceedence of relevant critical loads (see Technical note III), air pollution is not considered to be a potentially significant pressure to the structure and function of this 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 H2250 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: typical species,
- 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 H2250. 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:

- 13% of the area and 50% of the number of assessments was Favourable; and
- at least 13% of the total UK habitat area was in Favourable condition.

**Table 4.2.1** CSM condition assessment results for UK SACs supporting H2250. 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
<b>Unfavourable</b>	Declining		
	No change	17	1
	Unclassified		
	Recovering		
	Total	17	1
	<i>% of all assessments</i>	<b>87%</b>	<b>50%</b>
	<i>% of total UK resource</i>	<b>87%</b>	<b>unknown</b>
<b>Favourable</b>	Maintained	03	1
	Recovered		
	Unclassified		
	Total	03	1
	<i>% of all assessments</i>	<b>13%</b>	<b>50%</b>
	<i>% of total UK resource</i>	<b>13%</b>	<b>unknown</b>

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.

**Sites 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 H2250 based on Common Standard Monitoring condition assessments (See Sections 4.2 and 7.2 for further information)		
<b>Map 4.2.1</b> SAC assessments	<b>Map 4.2.2</b> Assessments strongly indicative of the condition on SSSI/ASSIs	<b>Map 4.2.3</b> Assessments weakly indicative of the condition on SSSI/ASSIs
	<p style="text-align: center;">Not applicable</p>	<p style="text-align: center;">Not applicable</p>
<p><b>Key</b>  <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  <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  <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  <u>Transparent</u> = SAC feature not present, i.e. the square does not contain any SAC features of this habitat type</p>	<p><b>Key*</b>  <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>	

### 4.3 Typical species

Typical species<sup>2.5.3</sup>: **None used**  
Typical species assessment<sup>2.5.4</sup>: **Not applicable**

Juniper (*Juniperus communis* agg.) is found in both coastal and inland habitats. UK-level trend for this species is therefore not conclusive for this assessment.

### 4.4 Conclusions on specific structures and functions (including typical species)

Conclusion<sup>2.6.iii</sup>: **Unfavourable – Bad but improving**

The EC Guidance states that where “more than 25% of the area of the habitat is Unfavourable as regards its specific structures and functions”, the conclusion should be Unfavourable – Bad. In the UK this was generally taken to mean that more than 25% of the habitat area is in Unfavourable condition.

CSM site condition assessments for SACs show that 87% of this habitat is classed as in Unfavourable condition as regards its structure and function. The existing data does show that more than 87% of the total UK resource is Unfavourable, that the necessary structures and functions for the habitat are not in place and that significant deteriorations and pressures exist. However, recent work on the Morrish More site – which contains 87% of the resource – suggests that the condition of the habitat is improving. Surveys have revealed that H2250 is more extensive on Morrish More than had been thought – and is in better condition in these newly identified areas (Peter Wortham, *pers. comm.*). 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.

## 5. Future Prospects

### 5.1 Main factors affecting the habitat

#### 5.1.1 Conservation measures

- Protection within designated sites

All the resource of H2250 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.

A substantial proportion of the UK coast is in the ownership of Government Departments/Agencies or voluntary conservation bodies, though the degree of influence over management is variable due to legal complexities. Other than the Morrish More, which is owned by the MOD, dune juniper sites are in private ownership, with Invernaver being held in crofting tenure.

- 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<sup>2.4.11</sup>

The most obvious major future threats to H2250 are listed below, several of which are referred to in Section 4.1.

- Grazing and browsing (**101 Modification of cultivation practices, 140 Grazing**)
- Military use: accidental fires (**730 Military manoeuvres**)
- Infestation by *Phomopsis juniperovora* (**973 introduction of disease**)
- Air pollution (**702 Air pollution**)

Based on an assessment of the exceedence of relevant critical loads (Technical note III), 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.

- **Climate change (900 erosion, 930 submersion)**

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. This habitat is potentially vulnerable to marine flooding resulting from sea-level rise, though it is quite far from the sea. The northerly distribution of the habitat means that it may be affected by a rise in temperatures.

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 CO<sub>2</sub> 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 H2250 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. There are a number of caveats to this approach, which are set out beneath this table.

### **SAC condition assessments**

Table 5.2.1 and Map 5.2.1 summarise the predicted potential future condition of H2250 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:

- 13% of the area and 50% of the number of assessments fall within the future-Favourable category; and
- at least 13% of the total UK habitat area falls within the future-Favourable category.

**Table 5.2.1** Predicted future condition of UK SACs supporting H2250 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

<b>Future condition</b>	<b>Present condition</b>	<b>Area (ha)</b>	<b>Number of site features</b>
Future-Unfavourable	Unfavourable declining		
	Unfavourable no change	17	1
	Unfavourable unclassified		
	Total	17	1
	<i>% of assessments</i>	<i>87%</i>	<i>50%</i>
	<i>% of total UK extent</i>	<i>87%</i>	<i>Unknown</i>
Future-Favourable	Favourable maintained	03	1
	Favourable recovered		
	Unfavourable recovering		
	Favourable unclassified		
	Total	03	1
	<i>% of assessments</i>	<i>13%</i>	<i>50%</i>
	<i>% of total extent</i>	<i>13%</i>	<i>Unknown</i>

Note that the scenario presented above is based on the same information as used to construct the Table 4.2.1. It is based on the following premises:

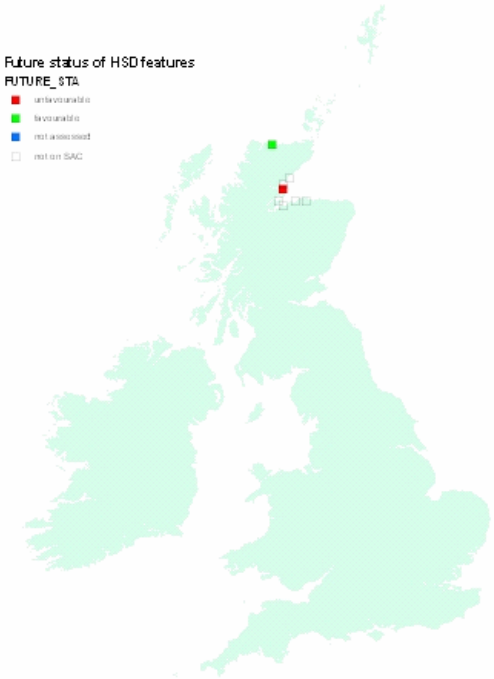
- (i) the unfavourable-recovering condition assessments will at some point in the future become Favourable;
- (ii) all unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;
- (iii) sympathetic management will be sustained on sites already classified as Favourable 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.

### **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 H2250 based on Common Standard Monitoring 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><b>Key</b>  <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><b>Key*</b>  <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>	

### 5.3 Conclusions on future prospects (as regards range, area covered and specific structures and functions)

#### Conclusion<sup>2.6.iv</sup>: Unfavourable – Bad but improving

The EC Guidance states that where “habitat prospects are bad, with severe impacts from threats expected and long-term viability not assured”, the judgement should be Unfavourable – Bad. In the UK, this was generally taken to mean that habitat range and/or area are in decline, and/or less than 75% of the habitat area is likely to be in Favourable condition in 12-15 years.

The analysis of data from SACs shows that 74% of the total UK habitat area will still remain Unfavourable in future. However, a substantial number of positive conservation measures have been put into place to improve the status of this habitat. Furthermore, as detailed in section 4.3, recent work on the Morrich More site – which contains 87% of the resource – suggests that the condition of the habitat is improving. 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. 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. Despite progress already made and some additional recovery once further conservation measures are put into place, the expectation is that more than 25% of the habitat will be in Unfavourable condition in the next 10-15 years.

## 6. Overall Conclusions and Judgements on Conservation Status<sup>2.6</sup>

### Conclusion<sup>2.6</sup>: Unfavourable – Bad

On the basis of the Area assessment, the overall conclusion for this habitat feature is Unfavourable – Bad.

**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.	2
Area covered by habitat type within range	Unfavourable – Bad	Current extent is below the favourable reference area, and by more than 10%.	2
Specific structures and functions (including typical species)	Unfavourable – Bad but improving	More than 25% of the habitat area is considered to be Unfavourable as regards its specific structures and functions. Significantly more of the resource in Unfavourable condition is improving than declining.	2
Future prospects (as regards range, area covered and specific structures and functions)	Unfavourable – Bad but improving	Habitat prospects over next 12-15 years considered to be bad, with severe impact from threats expected and long term viability not assured. Measures are in place and planned to address threats to future range, extent and structure and function for the overall UK resource.	2
Overall assessment of conservation status	Unfavourable – Bad	On the basis of the Area assessment, the overall conclusion for this habitat feature is Unfavourable – Bad.	2

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

## 7. Annexed Material (including information sources used 2.2)

### 7.1 References

AVERIS, A.B.G. 1997. *The vegetation of Druim Chuibhe, Invernaver, Sutherland*. Unpublished report to Scottish Natural Heritage. Edinburgh, Scottish Natural Heritage. [SNH Contract No. JE 00825]

CHRISTENSEN, S.N. & JOHNSEN, I. 2001. The lichen-rich coastal heath vegetation on the isle of Anholt, Denmark – description, history and development. *Journal of Coastal Conservation*, **7**, 1-12.

DARGIE, T.C.D. 1989. *Morrish More SSSI, Ross and Cromarty - Vegetation survey 1988*. CSD Contract Report No. 915. Nature Conservancy Council, Peterborough.

DARGIE, T.C.D. 1994. *The past and present status of Juniper (Juniperus communis) and gorse (Ulex europaeus) on part of the Morrish More SSSI, Ross-shire*. Unpublished report to Scottish Natural Heritage. Inverness, Scottish Natural Heritage.

DARGIE, T.C.D. 2000. *Sand Dune Vegetation Survey of Scotland: National Report*. Scottish Natural Heritage, Battleby.

DARGIE, T.C.D. 2001. Sand dune vegetation survey of Scotland: Moray Firth. *Scottish Natural Heritage Research, Survey and Monitoring Report* No. 181.

HAINES-YOUNG, R.H. *et al.* 2000. *Accounting for nature: assessing habitats in the UK countryside*. DETR, Rotherham.

JACKSON, D.L. & MCLEOD, C.R. (eds.) 2002. Handbook on the UK status of EC Habitats Directive interest features: provisional data on the UK distribution and extent of Annex I habitats and the UK distribution and population size of Annex II species. *JNCC Report*, No. 312. Version 2.  
[www.jncc.gov.uk/page-2447](http://www.jncc.gov.uk/page-2447)

JOINT NATURE CONSERVATION COMMITTEE. 2005. *Common Standards Monitoring (CSM)*. Joint Nature Conservation Committee, Peterborough [www.jncc.gov.uk/page-2217](http://www.jncc.gov.uk/page-2217)

MCLEOD, C.R., YEO, M., BROWN, A.E., BURN, A.J., HOPKINS, J.J., & WAY, S.F. (eds.) 2008. *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2<sup>nd</sup> edn. Joint Nature Conservation Committee, Peterborough [www.jncc.gov.uk/SACselection](http://www.jncc.gov.uk/SACselection)

### Map data sources

JNCC International Designations Database. Joint Nature Conservation Committee

Sand dune vegetation survey of Scotland. Scottish Natural Heritage

## 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)	20
Extent of feature on SACs – hectares (d)	20
Extent of features assessed – hectares (e)	20
% of total UK hectareage on SACs (d/c)	99
% of SAC total hectareage that has been assessed (e/d)	100
% of total UK hectareage that has been assessed (e/c)	99

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).
- 3.

**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)	1	13%
Current – Favourable (green)	1	13%
On SAC but not assessed (blue)	0	0%
Not on SAC (transparent)	6	75%
Total Number of 10km squares (any colour)	8	100%
Future – Unfavourable (red)	1	13%
Future – Favourable (green)	1	13%