

**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 :

**H8220: Siliceous rocky slopes with chasmophytic
vegetation**

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

H8220 Siliceous rocky slopes with chasmophytic vegetation

Audit trail compiled and edited by JNCC and the UK statutory nature conservation agencies Upland Lead Co-ordination 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 H8220 and its relations with UK classifications. Chasmophytic vegetation consists of plant communities that colonise the cracks and fissures of rock faces. The type of plant community that develops is largely determined by the base-status of the rock face. Siliceous communities develop on acid rocks whereas calcareous sub-types develop on lime-rich rocks such as limestone and calcareous schists. The presence of calcareous bands within otherwise mainly siliceous rocks often brings the two types together on the same rock outcrop. As a result, Siliceous rocky slopes with chasmophytic vegetation may occur in close association with Annex I type 8210 Calcareous rocky slopes with chasmophytic vegetation, and some sites are listed for both types. Lowland examples are included in the Annex I definition only where they include cliffs supporting distinctive crevice communities; coastal examples are referable to Annex I type 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts.

Both forms of chasmophytic vegetation in the UK correspond to the rock fissure communities described from Europe (*Asplenietea trichomanis*). Siliceous rock crevice vegetation is poorly covered by the NVC, although some forms can be referred to U18 *Cryptogramma crispa* – *Athyrium distentifolium* snow-bed community or U21 *Cryptogramma crispa* – *Deschampsia flexuosa* community. The habitat type typically comprises mixtures of bryophytes, such as *Amphidium mougeotii* and *Racomitrium* spp., and vascular plants, such as wavy hair-grass *Deschampsia flexuosa* and fir clubmoss *Huperzia selago*.

Altitude and geographical location account for a large part of the ecological variation exhibited by this habitat type. High-altitude examples in northern Scotland are particularly important for a range of rare species, such as alpine speedwell *Veronica alpina* and Highland cudweed *Gnaphalium norvegicum*, that have an arctic-alpine or boreal distribution.

In western localities, especially close to the coast, the habitat type is enriched by oceanic species, such as Wilson’s filmy fern *Hymenophyllum wilsonii* and sea spleenwort *Asplenium marinum*, as well as rich assemblages of Atlantic bryophytes. In the southern uplands of Wales and England, northern floristic elements are reduced. Although some species, such as dwarf willow *Salix herbacea*, have their most southerly occurrence in this habitat type, southern species, such as forked spleenwort *Asplenium septentrionale*, tutsan *Hypericum androsaemum* and wood bitter vetch *Vicia orobus*, also occur.

Table 1.1.1 Summary description of habitat H8220 and its relations with UK vegetation/habitat classifications

Classification	Correspondence with Annex I type	Comments
EU Interpretation Manual	PAL.CLASS.: 62.2	Based on CORINE classifications.
NVC	U18 <i>Cryptogramma crispa</i> – <i>Athyrium distentifolium</i> snow-bed U21 <i>Cryptogramma crispa</i> – <i>Deschampsia flexuosa</i> community	H8220 includes crevice vegetation of siliceous rocks. A number of vegetation types with characteristic ferns, bryophytes and lichens are included which are poorly covered by the NVC. It may also be closely associated with Annex I type H8110, which can also support U18 or U21. Coastal cliffs with crevice vegetation are referable to the Annex I type H1230.
BAP priority habitat type	Proposed - Upland natural rock and scree	A broader category which covers habitats wider than H8220.
CSM reporting categories, for: feature types; ASSI/SSSI feature types	Limestone pavement, inland cliffs and screes (See Williams 2006 www.jncc.gov.uk/page-3520)	A broader category which covers the following Annex I feature types: <ul style="list-style-type: none"> • H6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i> • H8120 Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) • H8210 Calcareous rocky slopes with chasmophytic vegetation • H8310 Caves not open to the public • H6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels • H8240 Limestone pavements • H8220 Siliceous rocky slopes with chasmophytic vegetation • H8110 Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)
JNCC CSM Guidance feature types	Siliceous rocky slope (JNCC 2005b www.jncc.gov.uk/page-2237)	Close correspondence to H8220.

2. Range ^{2.3}

2.1 Current range

Range surface area ^{2.3.1}: **32,485 km²**

Date calculated ^{2.3.2}: **May 2007**

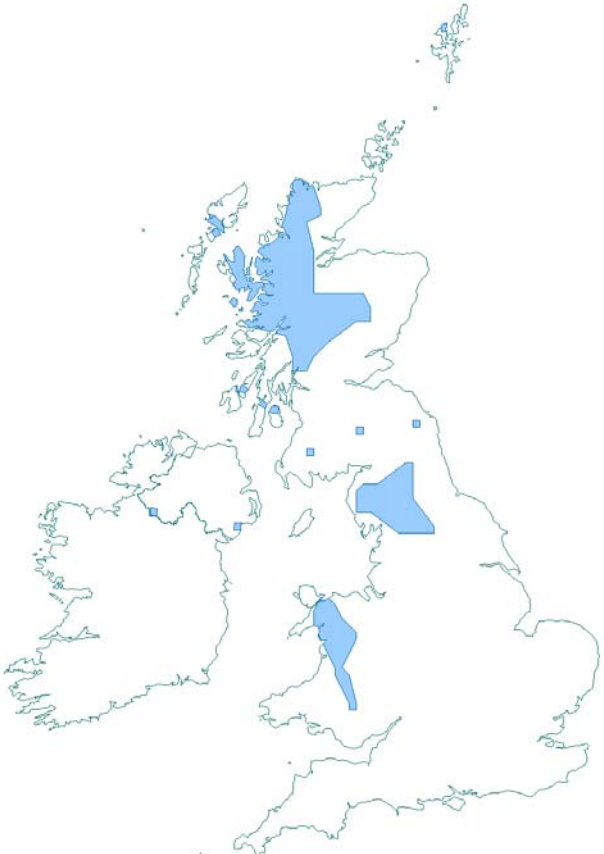
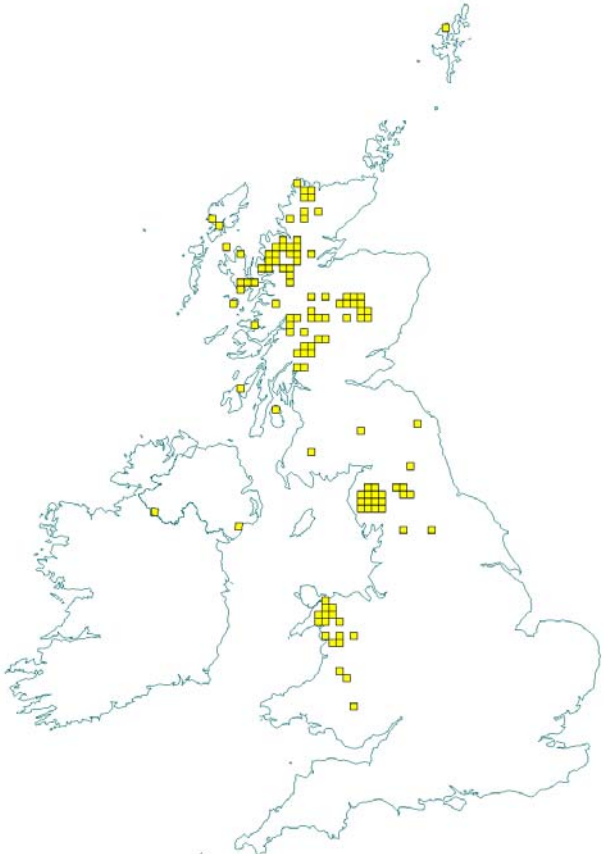
Quality of data ^{2.3.3}: **Poor**

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 was clipped to include inland areas only.

Maps 2.1.1 and 2.1.2 show the range and distribution of H8220 in the UK. H8220 is widespread in upland areas of the UK. Although both H8220 and the calcareous equivalent H8210 are widely distributed in the uplands of the UK, siliceous rocks predominate and H8220 has a greater overall extent and range surface area (Jackson and McLeod 2000).

However, the distribution and range shown in Maps 2.1.1 and 2.1.2 (taken from mapping occurrences of the core NVC communities U18 and U21 supplemented with other records from a database at Scottish

Natural Heritage (SNH) are considered to give an under-representation of true range and distribution for H8210, particularly when compared to similar maps for H8220 that are known to over-represent the occurrence of that habitat.

Map 2.1.1 Habitat range map ^{1.1} for H8220	Map 2.1.2 Habitat distribution map ^{1.2} for H8220
	
<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 10x10-km square of the National Grid and shows the known and/or predicted occurrence of this habitat. 10-km square count: 118</p>

2.2 Trend in range since c.1994

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

Although no information is available, the range is unlikely to have changed since 1800. There is little quantitative information available on trends in range in the UK for H8220, and particularly since 1994. The habitat is also poorly known outside the Special Area of Conservation (SAC) series. However, expert judgement suggests that the range since 1994 is likely to be stable as geological restrictions, natural erosion and rockfall are unlikely to create new cracks and fissures in areas outside the current range: the processes which have created the habitat historically are still operating in suitable locations within the surface area of the range shown in Map 2.1.1.

Since there is no evidence of significant change to the natural processes creating such fissures, expert judgement is that the range of the habitat has not changed significantly for several hundred years and certainly not since 1994.

2.3 Favourable reference range

Favourable reference range^{2.5.1}: 32,500 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, which is approximately 32, 500 km², has been set as the favourable reference area. Reasons for this are discussed below.

There is little quantitative information readily available on the historic range of H8220. The current and potential distribution of H8220 as shown on Map 2.1.2 is naturally limited by the occurrence of suitable geology, and associated geomorphological processes leading to the formations of cracks and fissures in suitable strata, principally in the uplands of the UK. These requirements also mean that the resource has a naturally fragmented distribution within its range in the UK, and there is little potential for an increase in the natural range of H8220.

Quarrying of the habitat is known to have occurred; although there is little data available on the extent of this activity and the effect on range of H8220 at a UK scale is thought to be small. Furthermore the new surfaces created by quarrying are available for colonisation, mitigating any potential effect on range.

Consequently the known distribution of H8220 shown in Map 2.1.2 is likely to be occupying most of its potential natural range and is viable. Expert judgement is that favourable reference range and distribution is likely to match closely the current range and distribution.

2.4 Conclusions on range

Conclusion^{2.6.i}: Favourable

There is no empirical information on any changes in range for H8220 since 1994, nor any previous historical data on extent or changes. Although H8220 is a dynamic habitat, natural change affecting the range operates on geological timescales and human activities are unlikely to have reduced the range of the habitat at a UK scale. Expert opinion suggests that the current range is similar to that in 1994 at a UK scale. The current range for H8220 is considered to be close to the potential range for the habitat and to its favourable reference range, and so the judgement on range for H8220 is Favourable.

3. Area^{2.4}

3.1 Current area

Total UK extent^{2.4.1}: 398.5 km²

Date of estimation^{2.4.2}: May 2007

Method^{2.4.3}: 1 = only or mostly based on expert opinion

Quality of data^{2.4.4}: Moderate

Table 3.1.1 provides information on the area of H8220 in the UK. There are no comprehensive data available for the extent of this habitat type in the UK, and the range of figures provided in Table 3.1.1 are estimates based on expert opinion. Surveys of around a quarter of the higher hills have been carried out in Scotland with an area of steeply sloping rock (mainly siliceous) estimated at about 10,000 ha.

The median value has been used as a basis for calculations in other parts of this audit trail.

Table 3.1.1 Area of H8220 in the UK

	Area (ha)	Method ^{2.4.3}	Quality of data ^{2.4.4}
England	1,000-1,500	1	Moderate
Scotland	35,000-40,000	1	Moderate
Wales	<1,000	1	Moderate
Northern Ireland	100 +/- 20	1	Moderate
Total UK extent ^{2.4.1}	37,080-42,620 [39,850]	1	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.

Key to reliability of measure/estimate: 1 = Precise measure of total extent/population size; 2 = Measure based on inventory data; 3 = Estimate calculated from different data sources and/or incomplete inventory data; 4 = Estimate based on expert opinion

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 readily available quantitative evidence or information on any trend in area for H8220 since 1994. Human activities are unlikely to have resulted in significant losses of the habitat, particularly since 1994. Most of the habitat is not accessible to grazing animals and the extent of H8220 itself, namely the rock crevices, remains intact even after the loss of characteristic species. The loss of these species, will however, affect the assessment for the structure and function parameter.

Overall, expert opinion is that the extent of H8220 has remained stable at a UK level since 1994.

3.3 Favourable reference area

Favourable reference area ^{2.5.2}: 398.5 km²

The potential area of H8220 is naturally limited by the occurrence of specific geological and geomorphological conditions. Natural processes such as rockfall, soil formation and colonisation by vegetation which both create and remove cracks and fissures (and lead to changes in extent to and from the Annex I type) operate on long timescales.

The particular environmental conditions required for the formation and maintenance of H8220 also mean that the habitat naturally has both a small total UK extent and is also naturally fragmented. Human impacts on the extent of the overall resource of H8120 are very small and localised.

There is no readily available information on the historic area of H8220 before 1994.

Overall, expert judgement is that the current area and distribution of H8220 is likely to closely equate to the potential natural area and be viable; and that this is likely to equate to the favourable reference area for H8220.

3.4 Conclusions on area covered by habitat

Conclusion ^{2.6.ii}: Favourable

The extent and distribution of H8220 is dictated principally by a specific geological and geomorphological conditions creating the habitat; grazing and other human-mediated impacts are considered to have a negligible impact by comparison. There is no known trend in area for H8220 since

1994; however expert judgement is that the current area, patch size and distribution is both considered viable and likely to equate to favourable reference area at a UK level for H8220.

4. Specific structures and functions (including typical species)

4.1 Main pressures ^{2.4.10}

The following list of main pressures for H8220 has been derived from the six year Common Standards Monitoring (CSM) results for SACs designated for their representation of H8220:

- **Grazing (140 Grazing)**

Overgrazing may reduce the floristic diversity of some chasms and gullies but some grazing is necessary to maintain open vegetation, preventing scrub or woodland regeneration. However, most of the UK resource of H8220 is out of the reach of grazing animals, occurring on inaccessible rock outcrops.

- **Recreation (624 Mountaineering, rock climbing, speliology)**

Rock climbing and related activities have been recorded as pressures on some SACs supporting H8220

- **Burning (180 Burning)**

Poorly controlled burning can lead to damage to vegetation on skeletal soils in crevices, with poor opportunities for regeneration.

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

Based on an assessment of the exceedence of relevant critical loads (see Technical note III), air pollution is considered to be a potentially significant pressure to the structure and function of this habitat.

4.2 Current condition

4.2.1 CSM condition assessments

Condition assessments based on CSM (see www.jncc.gov.uk/page-2199) provide a means to assess the structure and functioning of H8220 in the UK. The following attributes were examined for all CSM assessments relevant to the habitat:

- Feature (habitat) extent.
- Vegetation composition: frequency of taxa which are indicators of favourable condition; cover of taxa which are indicators of favourable condition, and others which are indicators of unfavourable condition.
- Vegetation structure: growth stages, burning, grazing, and disturbance.
- Physical structure: ground disturbance.

For SAC sites good information on structure, function and typical species is provided by CSM assessments (Joint Nature Conservation Committee 2005a).

SAC condition assessments

SACs include about 21% (8,529 ha) of the extent of H8220 in the UK in a well dispersed network across its range. Table 4.2.1 and Map 4.2.1 summarise the CSM condition assessments for UK SACs supporting habitat H8220. 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:

- 16% of the area and 25% of the number of assessments was unfavourable; and
- at least 2% of the total UK habitat area was in unfavourable condition.

Table 4.2.1 CSM condition assessment results for UK SACs supporting H8220. 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	28	2
	Unclassified	273	1
	Recovering	621	3
	Total	922	6
	<i>% of all assessments</i>	16%	25%
	<i>% of total UK resource</i>	2%	unknown
Favourable	Maintained	4,787	17
	Recovered		
	Unclassified	32	1
	Total	4,818	18
	<i>% of all assessments</i>	84%	75%
	<i>% of total UK resource</i>	12%	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.

Current Condition of H8220 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 used	Not used
<p>Key</p> <p>Red = 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>Green = 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>Blue = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported</p> <p>Transparent = SAC feature not present, i.e. the square does not contain any SAC features of this habitat type</p>	<p>Key*</p> <p>Green – 80 – 100% of assessed features on 10-km square are favourable</p> <p>Yellow - 50 – 80% of assessed features on 10-km square are favourable</p> <p>Orange - 20 – 50% of assessed features on 10-km square are favourable</p> <p>Red - 0 – 20% of assessed features on 10-km square are favourable</p> <p>*This is the same key as was used for JNCC CSM Report 2006</p>	

SSSI/ASSI condition assessments

Not used

4.3 Typical species

Typical species^{2.5.3}:

Cryptogramma crispera, *Gymnocarpium dryopteris*

Typical species assessment^{2.5.4}:

Change in 10 km square occupancy across UK over last 25 years

The trends of the following typical species are considered to indicative or informative on the structure and function of the UK resource of H8220.

Table 4.3.1 Trends and faithfulness of selected typical species for H8220

Typical species considered:	Faithfulness to habitat H8220 (based on analysis of NVC synoptic tables)	Trend over last 25 years from BSBI atlas - based on change in 10 km square occupancy across UK (see http://www.jncc.gov.uk/page-3254)
<i>Cryptogramma crispera</i>	Medium	No data
<i>Gymnocarpium dryopteris</i>	Very low	No data

None of the other species listed as characteristic of this habitat in the EU Interpretation Manual are particularly faithful to this habitat so available trend data at the UK-level is not particularly meaningful and has not been utilised here. Overall the trend for this species suggests an improvement in the condition of the wider resource of H8220; however there are no trends for the species since 1994 and limitations to deducing a trend for a habitat from a single species.

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

Conclusion^{2.6.iii}:

Unfavourable - Inadequate but improving

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 area 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.

CSM data for 2000-2006 for SACs supporting H8220 suggest that 25% of the number of assessed SACs supporting H8220, and 16% of the assessed SAC area (equivalent to 2% of the UK total area for H8220) were unfavourable. Most of the sites assessed as Unfavourable were in England and when the results from a larger proportion of Scottish sites are available, a larger proportion of sites may be Favourable.

In the absence of other data, extrapolating the SAC trends to the wider resource of H8220 suggests that around 16% of the overall UK resource is likely to be in unfavourable condition. However, only 21% of the known extent of H8220 is found on SACs, which reduces the confidence associated with this approach. Around 11% of the assessed SAC area is recovering and none is declining, suggesting a general improvement in the condition of H8220 in these sites. Consequently a judgement of Unfavourable - Inadequate but improving is justified.

5. Future prospects

5.1 Main factors affecting the habitat

5.1.1 Conservation measures

- Protection within SACs

Around 21% of the known resource of H8220 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.

An unknown but smaller proportion of the resource of H8220 also lies within the Site of Special Scientific Interest (SSSI)/Area of Special Scientific Interest (ASSI) series where similar management measures are in place.

- Agri-environment measures

A suite of agri-environment measures are now in place in both the uplands and lowlands which are addressing more appropriate management, particularly grazing levels, for much of the resource of H8220, particularly within the statutory site series.

- UK Biodiversity Action Plan (BAP)

H8220 has been put forward as part of a new priority habitat type - inland rock outcrop and scree habitats. However it is not currently covered by any priority habitat action plan under the UK BAP.

5.1.2 Main future threats^{2.4.11}

The most obvious major future threats to H8220 are listed below, several of which are referred to in Section 4.1. The measures identified in Section 5.1.1 are addressing some of these factors, with a greater proportion being addressed within the statutory site series:

- Grazing (**140 Grazing**)
- Recreation (**624 Mountaineering, rock climbing, speliology**)

- Climate change (**750 Other pollution or human impacts/ activities**)

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.

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

Based on an assessment of the exceedence of relevant critical loads (see Technical note III), air pollution is considered to be a potentially significant threat to the future condition of this habitat.

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 H8220 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 H8220 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:

- 95% of the area and 88% of the number of assessments fall within the future-favourable category; and
- at least 14% of the total UK habitat area falls within the future-favourable category.

Table 5.2.1 Predicted future condition of UK SACs supporting H8220 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	28	2
	Unfavourable unclassified	273	1
	Total	301	3
	<i>% of assessments</i>	05%	13%
	<i>% of total UK extent</i>	1%	Unknown
Future-favourable	Favourable maintained	4,787	17
	Favourable recovered		
	Unfavourable recovering	621	3
	Favourable unclassified	32	1
	Total	5,439	21
	<i>% of assessments</i>	95%	88%
	<i>% of total extent</i>	14%	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:

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

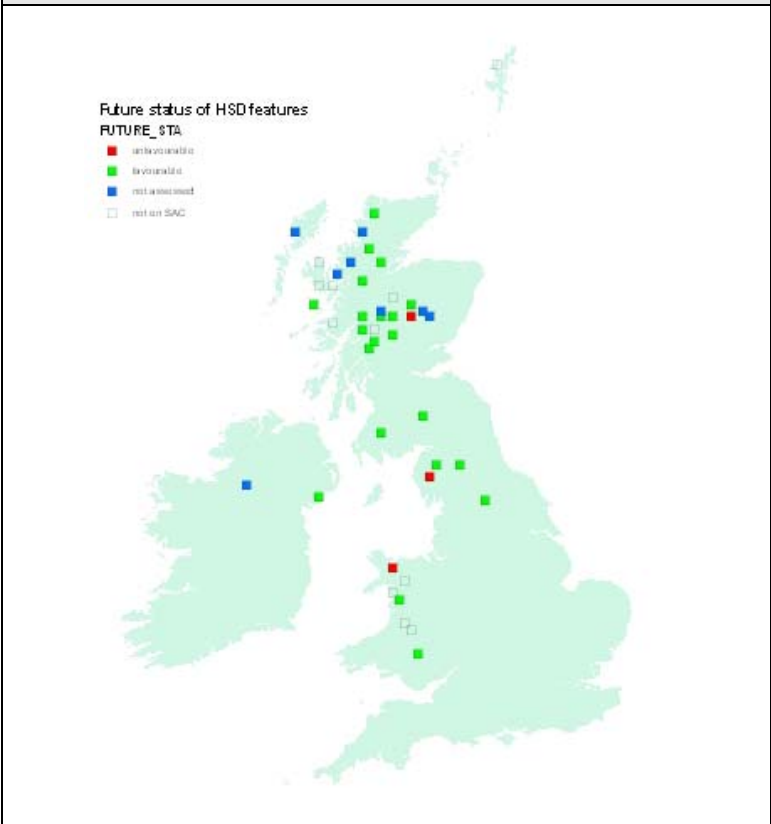
IMPORTANT NOTE: We do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in 'favourable' condition being attained.

SSSI/ASSI condition assessments

Not used.

Predicted Future Condition of H8220 based on CSM condition assessments (See Sections 5.2 and 7.2 for further information)

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
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Not used

Not used

Key
Red = **future-unfavourable**, i.e. the square contains one or more SACs where this habitat feature is present and has been predicted to be future-unfavourable
Green = **future-favourable**, i.e. the square contains at least one SAC where this habitat feature is present and has been predicted to be future-favourable
Blue = **SAC not assessed**, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported
Transparent = **SAC feature not present**, i.e. the square does not contain any SAC features of this habitat type

Key*
Green – 80 – 100% of assessed features on 10-km square are favourable
Yellow - 50 – 80% of assessed features on 10-km square are favourable
Orange - 20 – 50% of assessed features on 10-km square are favourable
Red - 0 – 20% of assessed features on 10-km square are favourable
 *This is the same key as was used for JNCC CSM Report 2006

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

Conclusion^{2.6.iv}: **Favourable**

Range and area appear to have been little affected by human activities and no significant change is expected in either parameter over the next 15-20 years. The results of CSM predicts that 95% of the area of the habitat on SAC (equivalent to 14% of the UK area) and 88% of the number of features on SAC are judged as 'future – favourable'. Although most of the resource of H8220 lies outside SACs in the UK, this figure can be extrapolated to suggest that at least 95% of the total UK resource of H8220 is likely to achieve favourable condition in the foreseeable future.

Agri-environment measures beyond the statutory site series and management agreements may be able to reduce grazing levels to levels at which there are minimal impacts from grazing. Therefore, given the measures in place and likely to occur as well as predicted future prospects for range, area and structure and function a judgement of Favourable is considered appropriate.

6. Overall conclusions and judgements on conservation status

Conclusion^{2.6}: **Unfavourable - Inadequate but improving**

On the basis of Structure and Function, 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.	2
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 but improving	Significantly more of the resource in unfavourable condition is improving than declining. 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)	Favourable	Habitat prospects over the next 12-15 years considered to be good with no significant impacts from threats expected and long-term viability assured.	2
Overall assessment of conservation status	Unfavourable - Inadequate but improving	One judgement of 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

JACKSON, D.L. 2000. Guidance on the interpretation of the Biodiversity Broad Habitat Classification (terrestrial and freshwater types): Definitions and the relationship with other habitat classifications. *JNCC Report No. 307*. JNCC, Peterborough.

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

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

JOINT NATURE CONSERVATION COMMITTEE. 2005b. *Common Standards Monitoring Guidance for Upland Habitats* Version May 2005, Peterborough. www.jncc.gov.uk/page-2237

WILLIAMS, J.M. (ed.) 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC. www.jncc.gov.uk/page-3520

Map data sources

Dave Horsfield (*pers. comm.*) 2007. Scottish Natural Heritage.

JNCC International Designations Database. Joint Nature Conservation Committee.

SNH Uplands Database, (18-12-98) 10KMVEG.XLS. 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)	33
Number of SACs with CSM assessments (b)	24
% of SACs assessed (b/a)	73
Extent of feature in the UK – hectares (c)	39,850
Extent of feature on SACs – hectares (d)	8,529
Extent of features assessed – hectares (e)	5,741
% of total UK hectarage on SACs (d/c)	21
% of SAC total hectarage that has been assessed (e/d)	67
% of total UK hectarage that has been assessed (e/c)	14

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 form 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)	6	14%
Current – Favourable (green)	18	42%
On SAC but not assessed (blue)	8	19%
Not on SAC (transparent)	11	26%
Total Number of 10-km squares (any colour)	43	
Future – Unfavourable (red)	3	7%
Future – Favourable (green)	21	49%