

**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 :**

**H7210: Calcareous fens with *Cladium mariscus*  
and species of the *Caricion davallianae***

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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# H7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion Davallianae*

*Audit trail compiled and edited by JNCC and the JNCC lowland wetland 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 NVC and other habitat types

Table 1.1.1 provides a summary description of H7210 and its relations with UK classifications.

Calcareous fens are rare in the UK, having a restricted and discontinuous geographical range with two main centres of distribution: the Broadlands of East Anglia and, to a lesser extent, the fen systems of Anglesey. This habitat type is very scattered and local elsewhere in the UK.

This Annex I type comprises the more species-rich examples of great fen-sedge *Cladium mariscus* fen, particularly those stands enriched with elements of the *Caricion davallianae* (i.e. small-sedge fen with open low-growing sedge vegetation). Davall’s sedge *Carex davalliana* itself is extinct in the UK. Such stands occur in the following situations:

- i. Sites with a mixture of closed, species-poor *Cladium* beds, which at their margins have transitions to species-rich small-sedge mire vegetation;
- ii. Sites where *Cladium* beds retain their species-richness owing to management; and
- iii. Situations where *Cladium* fen is inherently species-rich, possibly owing to the fact that conditions do not allow the *Cladium* to grow vigorously and dominate the vegetation.

**Table 1.1.1** Summary description of habitat H7210 and its relations with UK vegetation/habitat classifications.

Classification	Correspondence with Annex I type	Comments
EU Interpretation Manual	PAL.CLASS.: 53.3 <i>Cladium mariscus</i> beds of the emergent-plant zones of lakes, fallow lands or succession stage of extensively farmed wet meadows in contact with the vegetation of the <i>Caricion davallianae</i> or other <i>Phragmition</i> species [ <i>Cladietum marisci</i> (Allorge 1922) Zobrist 1935].  In contact with calcareous fens (7230), but also with acid fens, extensive wet meadows, other reed beds and tall sedge communities.	

<b>NVC</b>	S2 <i>Cladium mariscus</i> swamp and sedge beds S24 <i>Phragmitetum australis</i> - <i>Peucedanum palustris</i> tall-herb fen S25 <i>Phragmites australis</i> - <i>Eupatorium cannabinum</i> tall-herb fen, M9 <i>Carex rostrata</i> - <i>Calliergon cuspidatum/gigantium</i> mire. M13 <i>Schoenus nigricans</i> - <i>Juncus subnodulosus</i> mire M14 <i>Schoenus nigricans</i> - <i>Narthecium ossifragum</i> mire M24 <i>Molinia caerulea</i> - <i>Cirsium dissectum</i> fen meadow, SD14 <i>Salix repens</i> - <i>Campylium stellatum</i> dune slack community SD 15 <i>Salix repens</i> - <i>Calliergon cuspidatum</i> dune slack community	Not all examples of these types are included (see text above). Only semi-natural stands are included.  These NVC types which are associated with (but not necessarily confined to) this Annex I type, where they support abundant <i>C. mariscus</i>  At most sites several of these types are found as complex mosaics with other fen types, and in most cases the species-rich stands are less extensive than species-poor <i>Cladium</i> vegetation.
<b>BAP priority habitat type</b>	Fen	Category also contains many other wetland Annex I habitats.
<b>CSM reporting categories</b>	Fens and marshes – upland Fens and marshes - lowland	Category also contains many other wetland Annex I habitats.

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

### 2.1 Current range

**Range surface area <sup>2.3.1</sup>:** 7,218 km<sup>2</sup>

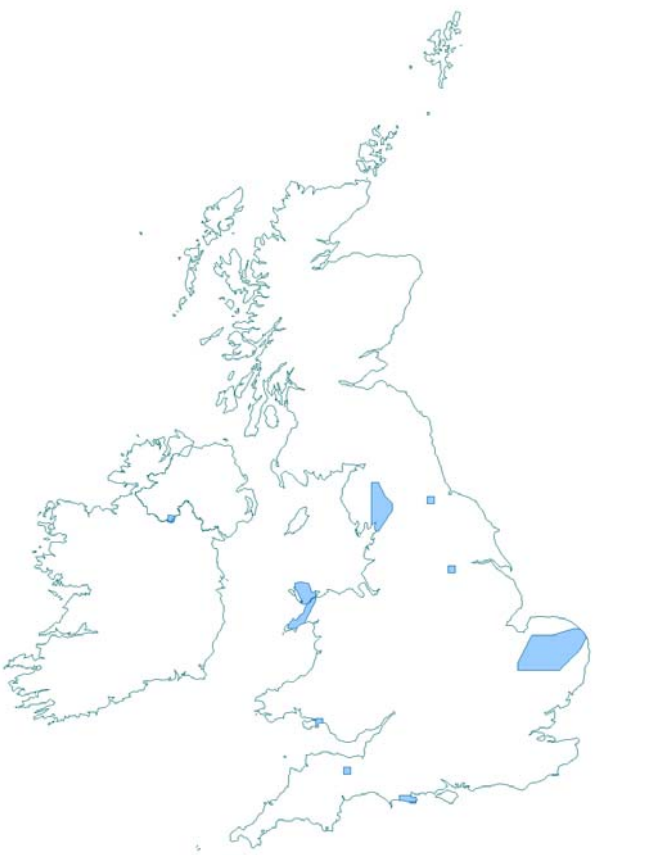
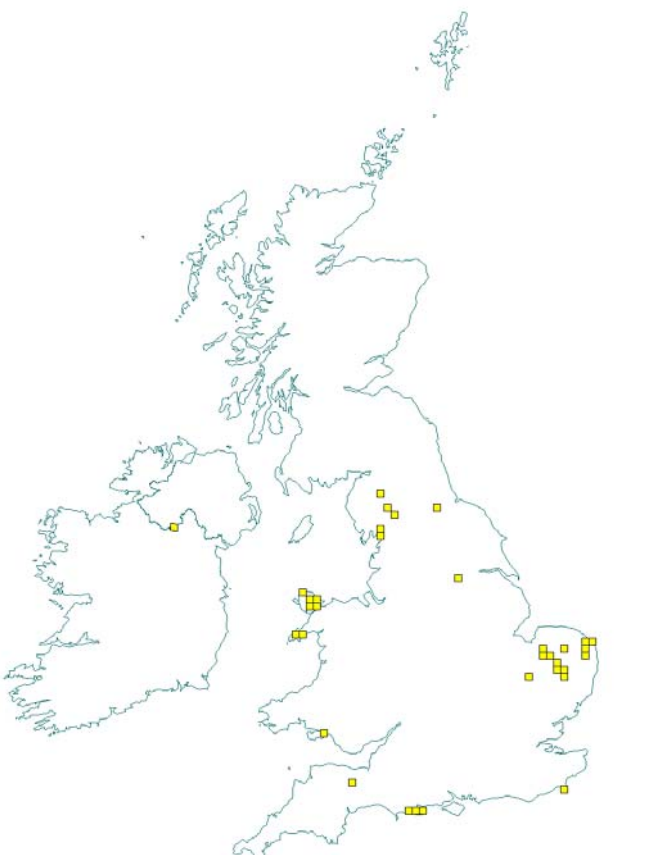
**Date calculated <sup>2.3.2</sup>:** May 2007

**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 was clipped to include inland areas only.

Maps 2.1.1 and 2.1.2 show the range and distribution of H7210 in the UK.

Calcareous fens corresponding to H7210 are rare in the UK, having a restricted and discontinuous geographical range with two main centres of distribution: the Broadlands of East Anglia and, to a lesser extent, the fen systems of Anglesey and Lleyn. This habitat type is very scattered and local elsewhere in the UK. Hence Map 2.1.1 gives an overestimate of the actual and potential range for H7210.

Map 2.1.1 Habitat range map <sup>1.1</sup> for H7210	Map 2.1.2 Habitat distribution map <sup>1.2</sup> for H7210
	
<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: 34</p>

## 2.2 Trend in range since c.1994

Trend in range <sup>2.3.4</sup> :	Unknown
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

There is no readily available evidence or information on any trend in range for H7210 since 1994.

## 2.3 Favourable reference range <sup>2.5.1</sup>

**Favourable reference range: 7,220 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 current surface area, which is approximately 7, 220 km<sup>2</sup>, has been set as the favourable reference area. Reasons for this are discussed below.

There is no information readily available on the historic range of this habitat.

The current distribution, as shown on Map 2.1.2, is naturally limited by geomorphological and hydrological conditions. These requirements also mean that the resource has a naturally fragmented distribution within its range.

Expert opinion suggests that the current distribution of H7210 as shown in Map 2.1.2 appears to occupy most of the potential range, and that the favourable reference range and distribution is likely to match closely the current range and distribution.

## 2.4 Conclusions on range

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

There is no information on any changes in range for H7210 since 1994, nor any previous historical data on extent or changes. However the current range is considered to be close to potential range for the habitats and to its favourable reference range, and so the judgement on range for H7210 is 'favourable'.

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

### 3.1 Current area

**Total UK extent<sup>2.4.1</sup>:** **5km<sup>2</sup>**

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

**Method<sup>2.4.3</sup>:** **1 = only or mostly based on expert opinion**

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

Table 3.1.1 provides information on the area of H7210 in the UK.

There is no comprehensive data available for the extent of this habitat type in the UK; the figures given in Table 3.1.1 for each country is the total recorded area for the habitat on SACs designated for H7210 in each country. Expert judgement suggests that this accounts for at least 95% of the total UK resource of H7210, hence the UK total of c.500ha.

**Table 3.1.1** Area of H7210 in the UK.

	Area (ha)	Method <sup>2.4.3</sup>	Quality of data <sup>2.4.4</sup>
<b>England</b>	313	3	Poor
<b>Scotland</b>	Not present	1	Poor
<b>Wales</b>	164	3	Poor
<b>Northern Ireland</b>	1	3	Good
<b>Total UK extent</b>	c. 500	1	Poor

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>:** **Unknown**

**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**

There is no information on UK trends for H7210 since 1994.

### 3.3 Favourable reference area

**Favourable reference area<sup>2.5.2</sup>:** **Unknown**

There is no information on the historic area or trends in area for H7210.

Historically the overall trend in area for H7210 is thought to be one of contraction because of (i) direct habitat destruction (ii) successional loss to woodland, and (iii) various forms of habitat degradation resulting from cultural enrichment, habitat neglect, drainage and (locally) abstraction. However there is

no quantitative information available to confirm this trend nor to suggest how this might relate to favourable reference area for H7210.

Due to the specific hydrological conditions required, H7210 often occurs as small isolated sites frequently with intensive land uses adjoining. Small patch sizes, coupled with additional fragmentation due to past drainage, make the resource of H7210 particularly vulnerable to pollution and other degradation. Although unlikely to have ever been extensive the small total UK area of H7210 and its patch-size distribution mean that it is likely to be currently at less than its favourable reference area. However without further analysis it is not possible to conclude whether the current estimated UK extent of 500ha is more or less than 10% below the favourable reference area

### 3.4 Conclusions on area covered by habitat

**Conclusion<sup>2.6.ii</sup>:** **Unknown**

Most of the current UK resource of H7210 lies within protected statutory sites, and is unlikely to have ever been very extensive due to its specific hydrological requirements. However the resource is isolated in often very small patches that are vulnerable to stochastic events. Although this might suggest that the resource of H7210 in the UK occupies less than its favourable reference area, there is no information on historic or more recent trends in area or other information to suggest whether the favourable reference area is more or less than 110% of the current area. Hence the conclusion for the area parameter for H7210 is unknown.

## 4. Specific structures and functions <sup>(including typical species)</sup>

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

The following list of main pressures for H7210 has been derived from the six year Common Standards Monitoring results for SACs designated for their representation of H7210 and results from the 2005 UK BAP reporting ( see <http://www.ukbap.org.uk/GenPageText.aspx?id=104> for further details):

- **Water abstraction and surface drainage (810 Drainage, 890 Other human induced changes in hydraulic conditions)**  
Past and continuing loss of area by drainage and conversion to intensive agriculture. Excessive water abstraction from aquifers has dried up or reduced spring line flows, and generally lowered water tables. Abstractions also have affected the natural balance between the differing water qualities of ground water and surface water.
- **Grazing (140 Grazing)**  
Both under and over-grazing have been recorded as reasons for adverse condition of H7210 in the SAC series.
- **Fragmentation (990 Other natural processes)**  
Small total area of habitat and critically small population sizes of several key species dependent on the habitat.
- **Absence of or inappropriate management (141 Abandonment of pastoral systems)**  
Lack of or inappropriate management of existing fens leading to drying, scrub encroachment and succession to woodland.
- **Pollution (701 Water pollution)**  
Valley fens supporting H7210 are particularly susceptible to agricultural run-off within the catchment. Enrichment or hypertrophication can result in substantial adverse changes to key plant communities.

- Air pollution

Based on an assessment of relevant literature and exceedence of critical loads (see Technical Note III), this habitat is not considered sensitive to air pollution or there is no relevant critical load available and the judgement is that it is unlikely to be at risk anyway.

## 4.2 Current condition

### 4.2.1 Common Standards Monitoring condition assessments

Condition assessments based on Common Standards Monitoring (see <http://www.jncc.gov.uk/page-2199>) provide a means to assess the structure and functioning of H7210 in the UK. The following attributes were examined for all CSM assessments relevant to the habitat:

- Extent
- Composition (habitat and vegetation)
- Structure
- Positive and negative indicator species
- Indicators of local distinctiveness

### SAC condition assessments

Table 4.2.1. and Map 4.2.1. summarise the Common Standards Monitoring condition assessments for UK SACs supporting habitat H7210. 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:

- 80% of the area and 92% of the number of assessments was unfavourable;
- 77% of the total UK habitat area was in unfavourable condition.

**Table 4.2.1** Common Standards Monitoring condition assessment results for UK SACs supporting H7210. 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	90	4
	No change	235	5
	Unclassified	01	1
	Recovering	58	1
	Total	384	11
	<i>% of all assessments</i>	<b>80%</b>	<b>92%</b>
	<i>% of total UK resource</i>	<b>77%</b>	<b>unknown</b>
<b>Favourable</b>	Maintained	93	1
	Recovered		
	Unclassified		
	Total	93	1
	<i>% of all assessments</i>	<b>20%</b>	<b>08%</b>
	<i>% of total UK resource</i>	<b>19%</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. Area figures for CSM assessments have been calculated using the data presented on the standard Natura 2000 data forms submitted to the EU.

**Table 4.2.2** Common Standards Monitoring condition assessment results for UK SSSI/ASSIs that were judged to be either strongly or weakly indicative of the condition of H7210 on SSSI/ASSIs. See notes below table and Technical Note II for further details.

Condition	Condition sub-categories	Number of assessments	
		Strongly indicative assessments (Category 1)	Weakly indicative assessments (Category 2)
<b>Unfavourable</b>	Declining	38	
	No change	30	
	Unclassified	2	18
	Recovering	50	
	Total	120	18
	<i>% of all assessments</i>	<i>84%</i>	<i>78%</i>
<b>Favourable</b>	Maintained		
	Recovered		
	Unclassified	23	5
	Total	23	5
	<i>% of all assessments</i>	<i>16%</i>	<i>22%</i>

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.

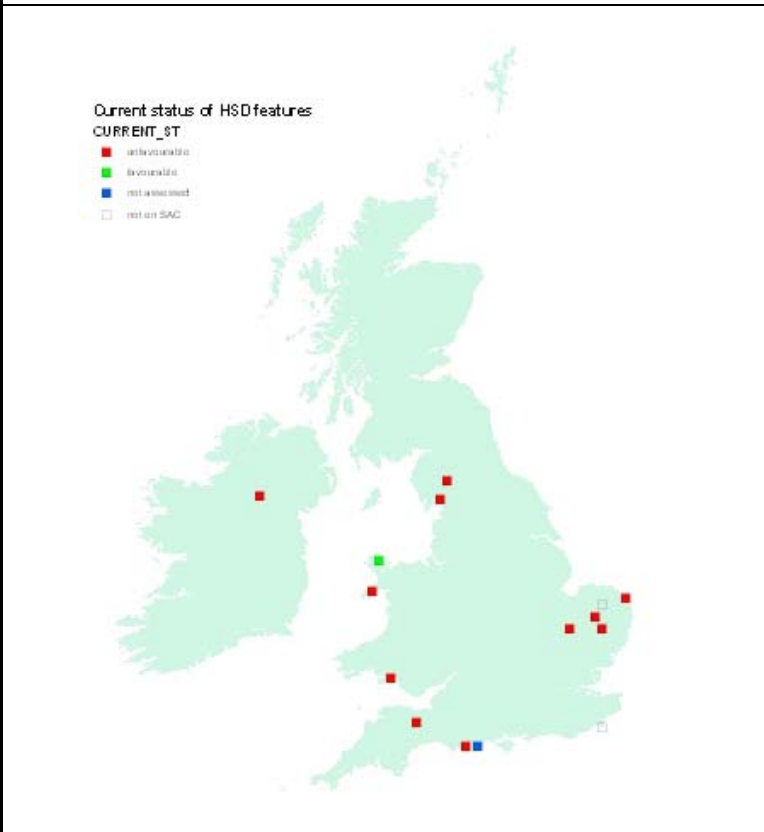
**SSSI/ASSI condition assessments**

Table 4.2.2 and Maps 4.2.2 and 4.2.3 summarise the Common Standards Monitoring condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see Technical Note II for details of methodology behind this). 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 maps are given in Section 7.2). The combined condition assessments show that of the SSSI/ASSI assessments considered:

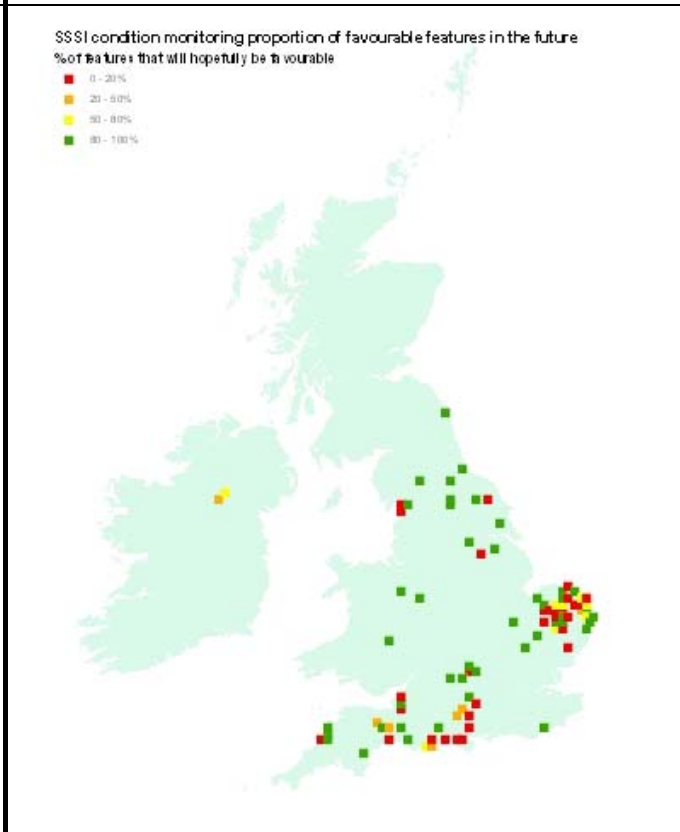
- 84% of strongly indicative assessments and 78% of weakly indicative assessments were Unfavourable.

**Current Condition of H7210 based on Common Standard Monitoring condition assessments** (See Sections 4.2 and 7.2 for further information)

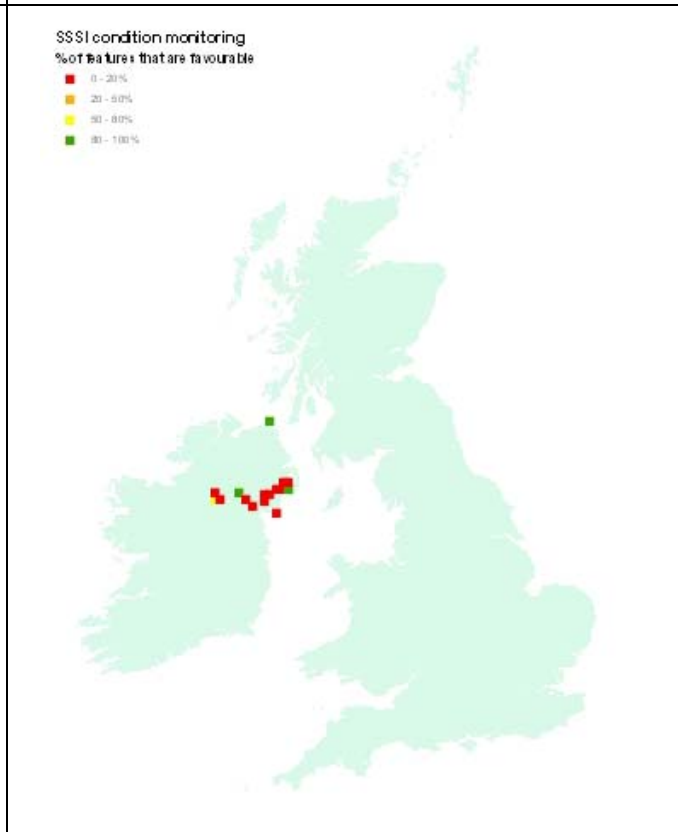
**Map 4.2.1** SAC assessments



**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



**Key**  
Red = Unfavourable, i.e. the square contains at least one SAC where this habitat feature is present and has been judged to be unfavourable  
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  
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 10km square are Favourable  
Yellow - 50 – 80% of assessed features on 10km square are Favourable  
Orange - 20 – 50% of assessed features on 10km square are Favourable  
Red - 0 – 20% of assessed features on 10km square are Favourable  
 \*This is the same key as was used for JNCC CSM Report 2006

### 4.3 Typical species

#### Typical species<sup>2.5.3</sup>:

*Calamagrostis epigejos*, *Lathyrus palustris*, *Cladium mariscus*, *Centaurium pulchellum*, *Dactylorhiza traunsteineri*, *Hypericum undulatum*, *Impatiens capensis*, *Isolepis setacea*, *Ophrys insectifera*, *Senecio erucifolius*, *Trifolium fragiferum*, *Carex lasiocarpa*, *Oenanthe fistulosa*, *Peucedanum palustre*

#### Typical species assessment<sup>2.5.4</sup>:

**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 H7210.

**Table 4.3.1** Trends and faithfulness of selected typical species for H7210

Typical species considered:	Faithfulness to habitat H7210 (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 <a href="http://www.jncc.gov.uk/page-3254">http://www.jncc.gov.uk/page-3254</a> )
<i>Calamagrostis epigejos</i>	Very high	Significant increase, but <25% in 25yrs
<i>Lathyrus palustris</i>	Very high	Significant increase $\geq$ 25% in 25yrs
<i>Cladium mariscus</i>	Medium	Significant increase, but <25% in 25yrs
<i>Centaurium pulchellum</i>	Medium	Significant increase, but <25% in 25yrs
<i>Dactylorhiza traunsteineri</i>	Medium	Significant increase $\geq$ 25% in 25yrs
<i>Hypericum undulatum</i>	Medium	No significant change
<i>Impatiens capensis</i>	Medium	No data
<i>Isolepis setacea</i>	Medium	Significant increase, but <25% in 25yrs
<i>Ophrys insectifera</i>	Medium	Significant decline $\geq$ 25% in 25yrs
<i>Senecio erucifolius</i>	Medium	Significant increase, but <25% in 25yrs
<i>Trifolium fragiferum</i>	Medium	Significant decline, but <25% in 25yrs
<i>Carex lasiocarpa</i>	Medium	Significant increase, but <25% in 25yrs
<i>Oenanthe fistulosa</i>	Medium	Significant decline, but <25% in 25yrs
<i>Peucedanum palustre</i>	Medium	No significant change

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 H7210; however there are no trends for the species since 1994.

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

### **Conclusion<sup>2.6.iii</sup>: Unfavourable – Bad and deteriorating**

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.

Common Standards Monitoring data for 2000-2006 for SACs and particularly SSSIs suggest very high proportions of statutory sites supporting H7210 are Unfavourable (80% for SACs and around 78-84% for SSSIs/ ASSIs ). Around 11% of the assessed SAC area is recovering but around 18% is declining, suggesting a slight net decline in the condition of H7210 in these sites.

Expert opinion suggests that around 95% of the UK resource of H7210 lies within SACs. Given this high representation and in the absence of data from sites outside the statutory site series, the figures from CSM data for the protected sites series have been extrapolated as being representative of the UK resource overall and this suggests that much more than 25% of the UK area for H7210 is in Unfavourable condition. With slightly more of the assessed SAC resource in the ‘Unfavourable’ category declining as recovering, this suggests a judgement of ‘Unfavourable – bad and deteriorating’ for the structure and function parameter for H7210.

## **5. Future prospects**

### **5.1 Main factors affecting the habitat**

#### **5.1.1 Conservation measures**

- Protection within SACs

The majority of the known resource of H7210 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 significant proportion of the resource of H7210 also lies within the SSSI/ASSI series where similar management measures are in place. However, even within the statutory sites series, there are some difficulties in establishing the correct grazing regimes established.

Drainage and nutrient enrichment remains a potent problem for protected sites, usually because of lack of control over surface drainage mediated groundwater impacts beyond SSSI boundaries.

- 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 an unknown proportion of the resource of H7210 outside the statutory site series.

- Water Framework Directive

In addition to the drive for improvement generated by the SAC and SSSI network, the Water Framework Directive (WFD) is adding considerable impetus for widespread action on issues affecting the resource of H7210 such as abstraction licences and pollution. However, there are concerns that the Directive may not be very effective for groundwater dependent terrestrial ecosystems.

- UK BAP

The habitat is covered by the fens 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 H7210 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:

- Water abstraction (**810 Drainage, 890 Other human induced changes in hydraulic conditions**)
- Grazing (**140 Grazing**)
- Fragmentation (**990 Other natural processes**)
- Absence of or inappropriate management (**141 Abandonment of pastoral systems**)
- Pollution (**701 Water pollution**)
  
- 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 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.

- Air pollution

Based on an assessment of relevant literature and exceedence of critical loads (see Technical Note III), this habitat is not considered sensitive to air pollution or there is no relevant critical load available and the judgement is that it is unlikely to be at risk anyway.

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

### 5.2.1 Common Standards Monitoring condition assessments

The Common Standards Monitoring condition assessments reported in Sections 4.2.1-2. provide a basis to predict the potential future condition of H7210 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.

### SAC condition assessments

Table 5.2.1 and Map 5.2.1 summarise the predicted potential future condition of H7210 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:

- 32% of the area and 17% of the number of assessments fall within the future-favourable category;
- 30 % of the total UK habitat area falls within the future-favourable category.

**Table 5.2.1** Predicted future condition of UK SACs supporting H7210 based on current Common Standards Monitoring 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>
<b>Future-unfavourable</b>	Unfavourable declining	90	4
	Unfavourable no change	235	5
	Unfavourable unclassified	01	1
	<b>Total</b>	<b>326</b>	<b>10</b>
	<b>% of assessments</b>	<b>68%</b>	<b>83%</b>
	<b>% of total UK extent</b>	<b>65%</b>	<b>Unknown</b>
<b>Future-favourable</b>	Favourable maintained	93	1
	Favourable recovered		
	Unfavourable recovering	58	1
	Favourable unclassified		
	<b>Total</b>	<b>151</b>	<b>2</b>
	<b>% of assessments</b>	<b>32%</b>	<b>17%</b>
	<b>% of total extent</b>	<b>30%</b>	<b>Unknown</b>

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

Table 5.2.2 and Maps 5.2.2 and 5.2.3 summarise the predicted potential future condition of H7210 on UK SSSI/ASSIs. This is based on the approach described above and utilises condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see Technical Note II for details of methodology behind this). The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the maps are given in Section 7.2). The combined condition assessments show that of the SSSI/ASSI assessments considered:

- 51% of strongly indicative assessments and 22% of weakly indicative assessments fall within the future-favourable category.

**Table 5.2.2** Predicted future condition of H7210 on SSSI/ASSIs based on Common Standards Monitoring assessments that were judged to be either strongly or weakly indicative of the condition. See notes below table and Technical Note II for further details.


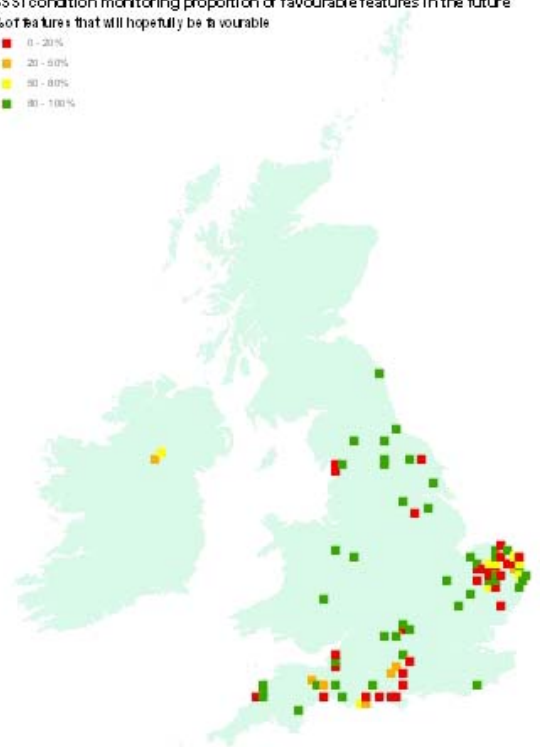

Future condition	Present condition	Number of assessments	
		Strongly indicative assessments (Category 1)	Weakly indicative assessments (Category 2)
Future-unfavourable	Unfavourable declining	38	
	Unfavourable no change	30	
	Unfavourable unclassified	2	18
	Total	<b>70</b>	<b>18</b>
	<i>% of assessments</i>	<b>49%</b>	<b>78%</b>
Future-favourable	Favourable maintained		
	Favourable recovered		
	Unfavourable recovering	50	
	Favourable unclassified	23	5
	Total	73	5
	<i>% of assessments</i>	<b>51%</b>	<b>22%</b>

Note that the scenario presented above is based on the same information as used to construct the Table 4.2.2. 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.

**Predicted Future Condition of H7210 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>Future status of HSD features FUTURE_STA</p> <ul style="list-style-type: none"> <li>■ unfavourable</li> <li>■ favourable</li> <li>■ not assessed</li> <li>□ not an SAC</li> </ul>	 <p>SSSI condition monitoring proportion of favourable features in the future % of features that will hopefully be favourable</p> <ul style="list-style-type: none"> <li>■ 0 - 20%</li> <li>■ 20 - 50%</li> <li>■ 50 - 80%</li> <li>■ 80 - 100%</li> </ul>	 <p>SSSI condition monitoring proportion of favourable features in the future % of features that will hopefully be favourable</p> <ul style="list-style-type: none"> <li>■ 0 - 20%</li> <li>■ 20 - 50%</li> <li>■ 50 - 80%</li> <li>■ 80 - 100%</li> </ul>
<p><b>Key</b>  <u>Red</u> = 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  <u>Green</u> = 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  <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>	

### **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.

Many of the future threats and pressures (particularly grazing; lack of or inappropriate management; over-abstraction; and aquatic pollution) on H7210 are being addressed for the majority of the resource of H7210 that lies within the statutory site series; and (particularly through Water Framework Directive and agri-environment measures) for the smaller but unknown proportion of the resource of H7210 lying outside the statutory site series.

However even within the SAC series 65% of the total UK area (and in SSSIs/ ASSIs, between 49% and 78% of the strongly and weakly indicative assessed features) of H7210 is likely to remain Unfavourable. Extrapolating beyond the statutory site series this suggest that more than 25% of the overall UK resource will be in Unfavourable condition in the immediate future (the next 15-20 years).

There is no evidence to suggest a future decline in the area or range of H7210 in the UK by more than 1% p.a.; however the evidence from future favourability from Common Standards Monitoring suggest that a substantial but unknown proportion of the total resource of H7210 is likely to remain in poor condition. Although some threats (particularly pollution and - to a lesser extent given the focus on the next 10-15 years – climate change) are less readily addressed, there are prospects for further control of some of the future threats through extension of agri-environment and Water Framework Directive initiatives, as well as positive management mechanisms.

Consideration of the above evidence leads to a judgement of ‘Unfavourable-Bad but improving’ for the future prospects for H7210.

### **6. Overall conclusions and judgements on conservation status<sup>2.6.</sup>**

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

**Unfavourable – Bad and deteriorating**

On the basis of the Structure and Function and Future Prospects assessments, the overall conclusion for this habitat feature is Unfavourable – Bad and deteriorating.

**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	Unknown	Insufficient information to make a judgement.	3
Specific structures and functions (including typical species)	Unfavourable – Bad and deteriorating	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 declining than improving.	3
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.	3
Overall assessment of conservation status	Unfavourable – Bad and deteriorating	Two parameters judged as Unfavourable – Bad; one trend as deteriorating	3

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

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

### 7.1 References

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)

#### Map data sources

FEN/Bog base 6 updated distribution data. Natural England.

JNCC International Designations Database. Joint Nature Conservation Committee.

Peter Jones (pers. comm.) 2007. Countryside Council for Wales.

### 7.2 Further information on Common Standards Monitoring 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

<b>Data</b>	<b>Value</b>
Number of SACs supporting feature (a)	13
Number of SACs with CSM assessments (b)	12
% of SACs assessed (b/a)	92
Extent of feature in the UK – hectares (c)	500
Extent of feature on SACs – hectares (d)	478
Extent of features assessed – hectares (e)	477
% of total UK hectarage on SACs (d/c)	96
% of SAC total hectarage that has been assessed (e/d)	100
% of total UK hectarage that has been assessed (e/c)	95

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

<b>Status</b>	<b>Number of squares</b>	<b>Proportion of all squares</b>
Current – Unfavourable (red)	11	73%
Current – Favourable (green)	1	7%
On SAC but not assessed (blue)	1	7%
Not on SAC (transparent)	2	13%
Total Number of 10km squares (any colour)	15	
Future – Unfavourable (red)	10	67%
Future – Favourable (green)	2	13%