

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

Supporting documentation for the  
Third Report by the United Kingdom under  
Article 17

on the implementation of the Directive  
from January 2007 to December 2012  
Conservation status assessment for

Species:

S1393 - Slender green feather-moss (*Hamatocaulis (Drepanocladus)  
vernicosus*)

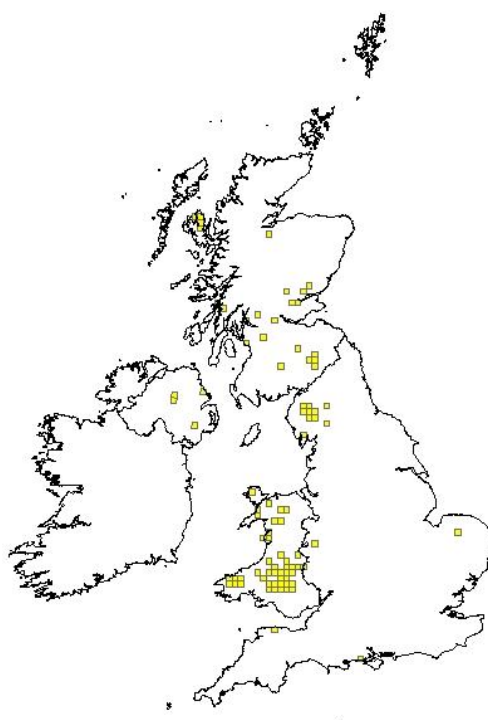
**IMPORTANT NOTE – PLEASE READ**

- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Northern Ireland Environment Agency** and refers only to the state of the habitat/species in **Northern Ireland** - it does not constitute an assessment for the whole of the UK.
- The Article 17 UK Approach document provides details on how this information has been used and, combined with information supplied by other Statutory Nature Conservation Bodies
- The format of the document is closely aligned to that set out by the European Commission for Member State reporting – as a result, some of the fields are not applicable at a country-level and have deliberately been left blank – in addition, the content of most fields is constrained by the EC reporting categories.

**Reporting format on the 'main results of the surveillance under Article 11'  
for Annex II, IV & V species**

<i>Field name</i>	<i>Brief explanations</i>	
<b>0.2 Species</b>	<b>0.2.1 Species code</b>	<b>S1393</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Hamatocaulis (Drepanocladus) vernicosus</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	

<b>1.1 Maps</b>			
<b>1.1.1 Distribution map</b>		<b>Sensitive</b>	<b>False</b>



<b>1.1.2 Method used - map</b>	<b>Complete survey/Complete survey or a statistically robust estimate</b>		
<b>1.1.3 Year or period</b>	<b>2007-2012</b>		
<b>1.1.4 Additional distribution map</b>	<b>False</b>		

<b>1.1.5 Range map</b>	

<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p>"Atherton, I., Bosanquet, S., and Lawley, M. 2010. Mosses and Liverworts of Britain and Ireland- a field guide. British Bryological Society, Plymouth.</p> <p>BOSANQUET, S.D.S., HALE, A.D., MOTLEY, G.S. AND WOODS, R.G. 2006. Recent work on <i>Hamatocaulis vernicosus</i> in mid and south Wales. <i>Field Bryology</i>, 90:228.</p> <p>CHURCH, J.M., HODGETTS, N.G., PRESTON, C.D. &amp; STEWART, N.F. 2001. British Red Data Books mosses and liverworts. Joint Nature Conservation Committee.</p> <p>Hodgetts N.G. (2012) Bryophyte survey of Knock Dhu and Sallagh Braes, Co. Antrim – revised. Unpublished report.</p> <p>Lockhart, B., Hodgetts, N. &amp; Holyoak, D. (2012). Rare and threatened bryophytes of Ireland. National Museums Northern Ireland Publication No 028."</p>

<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	
<b>2.3.2 Method used Surface area of Range</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>
<b>2.3.3 Short-term trend Period</b>	<b>2001-2012</b>
<b>2.3.4 Short term trend Trend direction</b>	<b>unknown</b>
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>
	<b>b) Maximum</b>
<b>2.3.6 Long-term trend Period</b>	<b>1988-2012</b>
<b>2.3.7 Long-term trend</b>	<b>unknown</b>

<b>Trend direction</b>		
<b>2.3.8 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
<b>2.3.9 Favourable reference range</b>	<b>a) Value in km<sup>2</sup></b>	
	Given that the taxonomy has only recently been clarified, and therefore that the historical dataset is not entirely reliable, and also that the species is currently relatively widespread and not threatened, it seems appropriate to use the current range as the favourable reference range.	
	<b>b) Operator for FRR</b>	
	<b>c) FRR is unknown (indicated by "true")</b>	<b>False</b>
<b>d) Method used to set FRR</b>	<p><b>It is believed that the current UK range is stable and is not highly restricted. Therefore, it is reasonable to assume that the range in 1994 was viable, and hence the favourable reference range has been set as equal to the current range, which includes the range as in 1994.</b></p> <p><b>Note that the species has only recently been re-discovered in NI at four (new) localities. Previous record dates from 1901 (Co Down - long extinct at this site). It is believed that these "new" records are the result of more assiduous searching and identification, rather than an expansion of range.</b></p>	
See comment under 2.4.13		
<b>2.3.10 Reason for change</b>  Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	<b>a) Genuine change?</b>	<b>False</b>
	Species only recently re-discovered in NI at four (new) localities. Previous record dates from 1901 (Co Down - long extinct at this site). It is believed that these "new" records are the result of more assiduous searching and identification, rather than an expansion of the species' population.	

	<b>b) Improved knowledge/more accurate data?</b>	<b>True</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.4 Population</b>		
<b>2.4.1 Population size estimation</b> (using individuals or agreed exceptions where possible)	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>2.4.2 Population size estimation</b> (using population unit other than individuals) Optional ( <i>if 2.4.1 filled in</i> )	<b>a) Unit</b>	<b>number of map 10x10 km grid cells</b>
	<b>b) Minimum</b>	<b>4</b>
	<b>c) Maximum</b>	<b>4</b>
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<b>a) Definition of "locality"</b>	
	<b>b) Method to convert data</b>	
	<b>c) Problems encountered to provide population size estimation</b>	
<b>2.4.4 Year or period</b>	<b>2007-2012</b>	
<b>2.4.5 Method used Population size</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
<b>2.4.6 Short-term trend Period</b>	<b>2001-2012</b>	

<b>2.4.7 Short-term trend Trend direction</b>	<b>unknown</b>	
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Absent data</b> See comment under 2.4.13	
<b>2.4.10 Long-term trend – Period</b>	<b>1988-2012</b>	
<b>2.4.11 Long-term trend Trend direction</b>	<b>unknown</b>	
<b>2.4.12 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b>	<b>0</b>  The situation is complicated by the fact that the taxonomy of the species was not clarified until 1989 and a general ability of British bryologists to recognise the species was not established until much later than that.	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	<b>4</b>
	Given the difficulties of estimating population sizes for this species and	

	<p>the fact that there has never been any reliable overall population size assessment, favourable reference population has been set in terms of number of 10 km squares occupied. Due to taxonomic difficulties in the past there is no reliable historic baseline even for this measure. This value as determined in the period 1990-2006 is considered reasonably high and this is the best candidate for a favourable reference population value that we have.</p> <p>In NI the species has only recently been re-discovered at 4 new sites. The Favourable Reference Population for NI is therefore set at 4 occupied 10km squares.</p>	
	<b>b) Operator</b>	
	<b>c) FRP is unknown indicated by "true"</b>	<b>False</b>
	<b>d) Method used to set FRP</b>	<p><b>There are now 4 extant populations of the species in NI.</b></p> <p><b>The species has only recently been re-discovered in NI at four (new) localities. Previous single record dates from 1901 (Co Down - long extinct at this site). It is believed that these "new" records are the result of more assiduous searching and identification, rather than an expansion of the species' population.</b></p> <p><b>Therefore, we are assuming that the current Favourable Reference population is 4.</b></p>
<p><b>2.4.15 Reason for change</b></p> <p>Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:</p>	<b>a) Genuine change?</b>	<b>False</b>
	<p>Species only recently re-discovered in NI at four (new) localities. Previous record dates from 1901 (Co Down - long extinct at this site). It is believed that these "new" records are the result of more assiduous searching and identification, rather than an expansion of range.</p>	
	<b>b) Improved knowledge/more accurate data?</b>	<b>True</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

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<b>2.5 Habitat for the species</b>	
<b>2.5.1 Area estimation</b>	<b>0</b>
	<p>Although the habitat requirements have been relatively well documented, habitat area at this fine scale is unknown.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.</p>
<b>2.5.2 Year or period</b>	<b>2007-2012</b>
<b>2.5.3 Method used Habitat for the species</b>	<b>Absent data</b>
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b> <b>Moderate</b>
	<b>b) Assessment method</b> <b>Since current habitat area is unknown, it is difficult to quantify trends in habitat, but neutral flushes and fens will almost certainly have suffered a net loss since the turn of the 20th Century. Over the past decade this decline is thought to have been curbed and possibly even reversed slightly, due to active management and protection of sites that support this species.</b>
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b>
<b>2.5.6 Short-term trend Trend direction</b>	<b>stable</b>
<b>2.5.7 Long-term trend Period</b>	<b>1988-2012</b>
<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b>
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b> <b>0</b>
	<b>b) Absence of data indicated as '0'</b>
<b>2.5.10 Reason for change</b> Is the difference between the value reported at 2.5.1 and the previous reporting round mainly	<b>a) Genuine change?</b> <b>False</b>



due to	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.6 Main pressures</b>		
<b>a) Pressure</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
A08: Fertilisation	H	
B01: forest planting on open ground	H	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	
J02: human induced changes in hydraulic conditions	H	

This is a plant of neutral flushes and fens, often with *Calliergonella cuspidata*, *Sphagnum contortum* and *Warnstorfia exannulata*. It particularly likes domed springheads, where alkaline water breaks through an acid peatland, or areas where alkaline flushes spread on to acid flushed ground. Although more frequent in the uplands, it does not reach very high altitudes, generally below 450 m.

The species is therefore particularly sensitive to changes in the water regime – both hydrology and water chemistry.

The main pressures on the species have been identified as:

A08 Fertilisation

A04 Grazing

Particularly undergrazing - which may allow more robust species to out-compete.

B01 Forest planting

esp. conifer plantation in the uplands

H01 Water pollution

e.g. eutrophication and acidification

J02 Drainage

**2.6.1 Method used –** **mainly based on expert judgement and other data**

**Pressures**

<b>2.7 Threats</b>		
<b>a) Threat</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	
J02: human induced changes in hydraulic conditions	H	
M01: Changes in abiotic conditions	H	
A08: Fertilisation	M	
B01: forest planting on open ground	M	

As noted in 2.6, the species is particularly sensitive to changes in the water regime – both hydrology and water chemistry.

The main threats to the species are similar to the pressures - i.e. :

A08 Fertilisation

A04 Grazing

B01 Forest planting  
esp. conifer plantation in the uplands

H01 Water pollution  
e.g. eutrophication and acidification

J02 Drainage  
M01 Climate Change

In addition, the potential impact of climate change on the hydrology of the flushes in which the species occurs is unknown. However, a slight shift to a warmer and wetter climate could potentially favour the species.

<b>2.7.1 Method used – Threats</b>	<b>expert opinion</b>
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## 2.8 Complementary information

### 2.8.1 Justification of % thresholds for trends

### 2.8.2 Other relevant information

### 2.8.3 Trans-boundary assessment

## 2.9 Conclusions (*assessment of conservation status at end of reporting period*)

Please refer to the United Kingdom assessment for this species.

## 3 Natura 2000 coverage & conservation measures - Annex II species (*only applies to species listed under Annex II of the Directive*)

### 3.1 Population

#### 3.1.1 Population size

Estimation of population size included in the SAC network

##### a) Unit

number of map 10x10 km grid cells

##### b) Minimum

0

##### c) Maximum

0

#### 3.1.2 Method used

Complete survey/Complete survey or a statistically robust estimate

#### 3.1.3 Trend of population size within the network (short-term trend)

unknown

## 3.2 Conservation measures

Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.

3.2.1 Measure	3.2.2 Type					3.2.3 Ranking  H = high importance M = medium importance L = low importance	3.2.4 Location  where the measure is PRIMARILY applied			3.2.5 Broad evaluation of the measure					
	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off		a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated
2.1: Maintaining grasslands and other open habitats	Y			Y		H			Y	Y	Y	Y			
4.1: Restoring/im proving water quality	Y			Y		H			Y	Y	Y	Y			
4.2: Restoring/im proving the hydrological regime	Y			Y		H			Y	Y	Y	Y			

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