

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

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

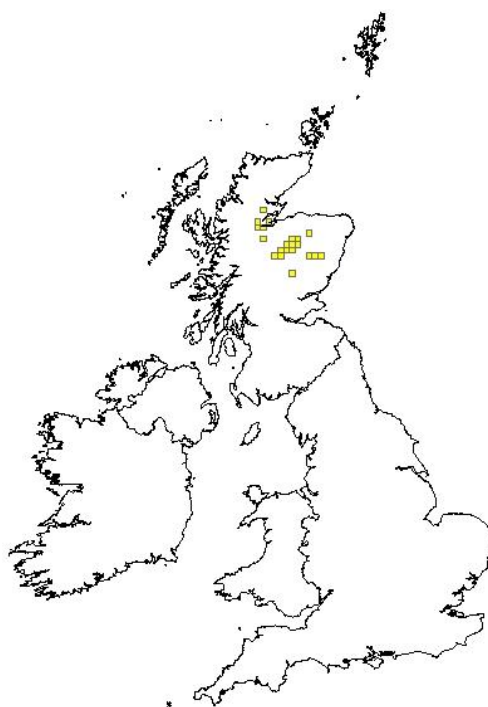
Species:

S1386 - Green shield-moss (*Buxbaumia viridis*)

## 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>S1386</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Buxbaumia viridis</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>True</b>	<b>Sensitive</b>	<b>False</b>
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period. For further details see the 2013 Article 17 UK Approach document.		



<b>1.1.2 Method used - map</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>1.1.3 Year or period</b>	<b>1999-2012</b>
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period.

<b>1.1.4 Additional distribution map</b> Optional	<b>False</b>
<b>1.1.5 Range map</b>	<b>True</b> The range map was produced by applying the UK range mapping tool to the distribution map presented in 1.1.4. The alpha value for this species was 20km. For further details see the 2013 Article 17 UK Approach document.



<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p><b>European Committee for Conservation of Bryophytes (1995). Red Data Book of European Bryophytes. ECCB, Trondheim.</b></p> <p><b>Hodgetts NG, 2011. A revised Red List of bryophytes in Britain. Field Bryology 103 40-49.</b></p> <p><b>Preston CD, 2010. A revised list of nationally rare bryophytes. Field Bryology 100 32-40.</b></p> <p><b>Rothero, GP, 1993. Current Status of Buxbaumia viridis in Moniack Glen. SNH Research and Advisory Services Directorate Report, unpublished.</b></p> <p><b>Rothero, GP, 1999. The phenology of Buxbaumia viridis in Moniack Glen. SNH Research and Advisory Services Directorate Report, unpublished.</b></p> <p><b>Rothero, GP 2003. Priority bryophytes species dossier: Buxbaumia viridis. Unpublished report for SNH.</b></p>

	<p><b>Rothero, G. P. (2012) Surveillance of priority bryophytes in Scotland 2010-2013: <i>Buxbaumia viridis</i>. (unpublished at time of reporting but will appear at <a href="http://www.snh.gov.uk/publications-data-and-research/trends/scotlands-trends">www.snh.gov.uk/publications-data-and-research/trends/scotlands-trends</a> in 2013.)</b></p> <p><b>Taylor S, 2010. <i>Buxbaumia viridis</i> in Abernethy Forest and other sites in northern Scotland. <i>Field Bryology</i> 100, 9-14.</b></p> <p><b>Wiklund K, 2002. Substratum preference, spore output and temporal variation in sporophyte production of the epixylic moss <i>Buxbaumia viridis</i>. <i>Journal of Bryology</i>, 24: 187-195. UK distribution map data sources</b></p> <p><b>D. Genney, pers. comm. SNH NBN Gateway data: British Bryological Society GA000144 Extracted by LH 13/09/2012 Bryophyte data for Great Britain from the British Bryological Society held by BRC Sent to JNCC (LH) by Colin McLeod of SNH by email 21/08/2013</b></p> <p>UK Distribution Map data sources</p> <p>D. Genney, pers. comm. SNH NBN Gateway data: British Bryological Society GA000144 Extracted by LH 13/09/2012 Bryophyte data for Great Britain from the British Bryological Society held by BRC Sent to JNCC (LH) by Colin McLeod of SNH by email 21/08/2013</p>
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<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	<p><b>6127</b></p> <p>The surface area of the range was calculated from the map presented in 1.1.5. For further details see the 2013 Article 17 UK Approach document.</p>
<b>2.3.2 Method used Surface area of Range</b>	<p><b>Estimate based on partial data with some extrapolation and/or modelling</b></p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information</p>
<b>2.3.3 Short-term trend Period</b>	<p><b>2001-2012</b></p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information</p>
<b>2.3.4 Short term trend Trend direction</b>	<p><b>stable</b></p> <p>The short term trend direction was derived by comparing the range map in 1.1.5 with the range map produced in the 2007 report, by considering the range trend in the 2007 report, and by considering any further information provided by the UK country conservation agencies. For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</p>

<b>2.3.5 Short-term trend Magnitude</b> Optional	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
<b>2.3.6 Long-term trend Period</b> Optional		
<b>2.3.7 Long-term trend Trend direction</b> Optional		
<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>	<b>6127</b>
	The current range has been set as the FRV since this is thought to be a better reflection of the range when the Habitats Directive came into force.	
	<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>	<b>The current range has been set as the FRV since this is thought to be a better reflection of the range when the Habitats Directive came into force. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.</b>
The current range has been set as the FRV since this is thought to be a better reflection of the range when the Habitats Directive came into force. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.		

<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>
	The apparent increase in range is thought not to be genuine but due to better data.	
	<b>b) Improved knowledge/more accurate data?</b>	<b>True</b>
	The apparent increase in range is thought not to be genuine but due to better data.	
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>
Use of a revised UK range mapping tool had little effect on the calculation for surface area of range.		

<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>number of individuals</b>
	The population unit is the same as reported in 2007 - number of individual sporophyte capsules.	
	<b>b) Minimum</b>	<b>1167</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
	<b>c) Maximum</b>	<b>1167</b>
For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		
<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 localities</b>
	<b>b) Minimum</b>	<b>22</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
	<b>c) Maximum</b>	<b>22</b>
For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<b>a) Definition of "locality"</b>	<b>A distinct site, typically a woodland management unit.</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
	<b>b) Method to convert data</b>	
	<b>c) Problems encountered to provide population size estimation</b>	<b>It is likely that there are some undiscovered populations that have not been taken into account in the population estimate. Sporophyte capsules are</b>

		<b>naturally variable in number.</b>
		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.4 Year or period</b>		<b>2007-2012</b>
		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.5 Method used</b>		<b>Estimate based on partial data with some extrapolation and/or modelling</b>
<b>Population size</b>		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.6 Short-term trend</b>		<b>2001-2012</b>
<b>Period</b>		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.7 Short-term trend</b>		<b>unknown</b>
<b>Trend direction</b>		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.8 Short-term trend</b>	Optional	<b>a) Minimum</b>
<b>Magnitude</b>		
		<b>b) Maximum</b>
		<b>c) Confidence interval</b>
<b>2.4.9 Short-term trend</b>		<b>Estimate based on expert opinion with no or minimal sampling</b>
<b>Method used</b>		For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.10 Long-term trend –</b>		<b>1989-2012</b>
<b>Period</b>	Optional	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.11 Long-term trend</b>		<b>unknown</b>
<b>Trend direction</b>	Optional	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
<b>2.4.12 Long-term trend</b>	Optional	<b>a) Minimum</b>
<b>Magnitude</b>		
		<b>b) Maximum</b>

	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b> Optional	<b>Absent data</b>	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	<b>1167</b>
	The FRV had been set as equal to the current population estimate because this is thought to be a better reflection of the population when the Habitats Directive came into force.	
	<b>b) Operator</b>	
	<b>c) FRP is unknown (indicated by "true")</b>	<b>False</b>
	<b>d) Method used to set FRP</b>	<b>The FRV had been set as equal to the current population estimate because this is thought to be a better reflection of the population when the Habitats Directive came into force. The value is considered to be large enough for the population to be viable. For further details please see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</b>
	The FRV had been set as equal to the current population estimate because this is thought to be a better reflection of the population when the Habitats Directive came into force. The value is considered to be large enough for the population to be viable. For further details please see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
<b>2.4.15 Reason for change</b> Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	<b>a) Genuine change?</b>	<b>False</b>
	The increase in population is thought to be due to better data rather than a genuine change.	
	<b>b) Improved knowledge/more accurate data?</b>	<b>True</b>
	The increase in population is thought to be due to better data rather than a genuine change.	
	<b>c) Use of different method (e.g.</b>	<b>False</b>



	<b>"Range tool")?</b>	
The increase in population is thought to be due to better data rather than a genuine change.		

<b>2.5 Habitat for the species</b>		
<b>2.5.1 Area estimation</b>	The specific area of habitat occupied by this species in the UK is unknown.  For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information  It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.	
<b>2.5.2 Year or period</b>	<b>N/A</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
<b>2.5.3 Method used Habitat for the species</b>	<b>Absent data</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Moderate</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
	<b>b) Assessment method</b>	<b>Based on casual observations of habitat quality within the species' core range.</b>
For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
<b>2.5.6 Short-term trend Trend direction</b>	<b>unknown</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
<b>2.5.7 Long-term trend Period</b>	<b>1989-2012</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
Optional		
<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b> For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
Optional		
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	
	<b>b) Absence of data indicated as '0'</b>	
<b>2.5.10 Reason for change</b> Is the difference between the	<b>a) Genuine change?</b>	<b>False</b>

value reported at 2.5.1 and the previous reporting round mainly due to	Surface area of habitat is unknown so no comparison is possible.	
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	Surface area of habitat is unknown so no comparison is possible.	
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>
Surface area of habitat is unknown so no comparison is possible.		

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance (max 5 entries) M = medium importance L = low importance	
B02: Forest and Plantation management & use	H	
B06: grazing in forests/ woodland	M	
A05: livestock farming and animal breeding (without grazing)	L	

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
<b>2.6.1 Method used – Pressures</b>	<b>based exclusively or to a larger extent on real data from sites/occurrences or other data sources</b>
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance (max 5 entries) M = medium importance L = low importance	
G05: Other human intrusions and disturbances	M	
J03: Other ecosystem modifications	M	

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information

**2.7.1 Method used – Threats****expert opinion**

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information

**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*)****2.9.1 Range****a) Conclusion****Favourable**

Range has been assessed as Favourable because the range is equal to the FRR and the short term trend is stable.

**b) Qualifier****2.9.2 Population****a) Conclusion****Unknown**

Population has been assessed as Unknown because although the population is equal to the FRP, the short term trend is unknown. There has been a large increase in the population recorded since the 2007 report, although this is thought to be due to better recording rather than a genuine increase.

**b) Qualifier****2.9.3 Habitat for the species****a) Conclusion****Unknown**

Habitat has been assessed as unknown because very little is known about the extent and trends of the habitat. Although the quality of the habitat is moderate, and the current levels of range and population are equal to the FRVs (suggesting there is currently sufficient habitat to support this), it is unknown whether the amount of coarse woody debris within the species range is increasing or decreasing.

**b) Qualifier****2.9.4 Future prospects****a) Conclusion****Unknown**

Future prospects is assessed as unknown on the basis of assessments of the future prospects of the three parameters, range, population and

	habitat for species: Range future prospects: Good Population future prospects: Unknown Habitat future prospects: Unknown Overall future prospects: Unknown		
	<table border="1"> <tr> <td><b>b) Qualifier</b></td> <td></td> </tr> </table>	<b>b) Qualifier</b>	
<b>b) Qualifier</b>			
<b>2.9.5 Overall assessment of Conservation Status</b>	<b>Unknown</b>		
	The overall assessment is unknown because population and future prospects are unknown.		
<b>2.9.6 Overall trend in Conservation Status</b>			

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

<b>3.1 Population</b>			
<b>3.1.1 Population size</b>  Estimation of population size included in the SAC network	<table border="1"> <tr> <td><b>a) Unit</b></td> <td><b>number of individuals</b></td> </tr> </table>	<b>a) Unit</b>	<b>number of individuals</b>
	<b>a) Unit</b>	<b>number of individuals</b>	
	The population unit is number of individual sporophyte capsules.		
	<table border="1"> <tr> <td><b>b) Minimum</b></td> <td><b>941</b></td> </tr> </table>	<b>b) Minimum</b>	<b>941</b>
	<b>b) Minimum</b>	<b>941</b>	
For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information			
<table border="1"> <tr> <td><b>c) Maximum</b></td> <td><b>941</b></td> </tr> </table>	<b>c) Maximum</b>	<b>941</b>	
<b>c) Maximum</b>	<b>941</b>		
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		
<b>3.1.2 Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>		
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		
<b>3.1.3 Trend of population size within the network</b> (short-term trend)	<b>unknown</b>		
Optional	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information		

### 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
3.1: Restoring/im proving forest habitats	Y			Y		H			Y	Y	Y	Y			
6.1: Establish protected areas/sites	Y					M	Y				Y	Y			
6.3: Legal protection of habitats and species	Y					M			Y	Y		Y			
6.4: Manage landscape features				Y		H			Y	Y	Y	Y			

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.