

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

**Fourth Report by the United Kingdom
under Article 17**

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the species:

**S6216 - Slender green feather- moss (*Hamatocaulis
vernicosus*)**

NORTHERN IRELAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this species, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this species is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).
- For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, <https://jncc.gov.uk/article17>, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

1.1 Member State	UK (Northern Ireland information only)
1.2 Species code	6216
1.3 Species scientific name	<i>Hamatocaulis vernicosus</i>
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Slender green feather- moss

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2013-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
2.5 Additional maps	No

3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No	
3.2 Which of the measures in Art. 14 have been taken?	a) regulations regarding access to property	No
	b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
	c) regulation of the periods and/or methods of taking specimens	No
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No
	f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
	g) breeding in captivity of animal species as well as artificial propagation of plant species	No
	h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

4.2 Sources of information

Atherton, I., Bosanquet, S., and Lawley, M. 2010. Mosses and Liverworts of Britain and Ireland- a field guide. British Bryological Society, Plymouth.
 BOSANQUET, S.D.S., HALE, A.D., MOTLEY, G.S. AND WOODS, R.G. 2006. Recent work on Hamatocaulis vernicosus in mid and south Wales. Field Bryology, 90:228.
 CHURCH, J.M., HODGETTS, N.G., PRESTON, C.D. & STEWART, N.F. 2001. British Red Data Books mosses and liverworts. Joint Nature Conservation Committee.
 Hodgetts N.G. (2012) Bryophyte survey of Knock Dhu and Sallagh Braes, Co. Antrim - revised. Unpublished report.
 Lockhart, B., Hodgetts, N. & Holyoak, D. (2012). Rare and threatened bryophytes of Ireland. National Museums Northern Ireland Publication No 028.
 NIEA. Unpublished surveys and reports. Various years

5. Range

5.1 Surface area (km²)

5.2 Short-term trend Period

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

b) Maximum

5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

a) Minimum

b) Maximum

5.9 Long-term trend Method used

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5.10 Favourable reference range	a) Area (km ²) b) Operator c) Unknown d) Method
5.11 Change and reason for change in surface area of range	No change The change is mainly due to:
5.12 Additional information	

6. Population

6.1 Year or period	2013-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 8
6.3 Type of estimate	Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value
6.5 Type of estimate	
6.6 Population size Method used	Based mainly on expert opinion with very limited data
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Insufficient or no data available
6.11 Long-term trend Period	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown d) Method
6.16 Change and reason for change in population size	No change

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The change is mainly due to:

6.17 Additional information

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)?	Yes
	b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?	Yes
7.2 Sufficiency of area and quality of occupied habitat Method used	Based mainly on expert opinion with very limited data	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Unknown (x)	
7.5 Short-term trend Method used	Insufficient or no data available	
7.6 Long-term trend Period		
7.7 Long-term trend Direction		
7.8 Long-term trend Method used		
7.9 Additional information		

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Agricultural activities generating point source pollution to surface or ground waters (A25)	H
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	H
Drainage for use as agricultural land (A31)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M
Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Agricultural activities generating point source pollution to surface or ground waters (A25)	H
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	H

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Drainage for use as agricultural land (A31)	M
Droughts and decreases in precipitation due to climate change (N02)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M

8.2 Sources of information

8.3 Additional information

9. Conservation measures

9.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures identified and taken

9.2 Main purpose of the measures taken

Maintain the current range, population and/or habitat for the species

9.3 Location of the measures taken

Both inside and outside Natura 2000

9.4 Response to the measures

Medium-term results (within the next two reporting periods, 2019-2030)

9.5 List of main conservation measures

Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)

Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)

Reduce/eliminate point pollution to surface or ground waters from agricultural activities (CA10)

Reduce diffuse pollution to surface or ground waters from agricultural activities (CA11)

Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation (CB01)

Reduce impact of mixed source pollution (CJ01)

Reduce impact of multi-purpose hydrological changes (CJ02)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

- a) Range
- b) Population
- c) Habitat of the species

10.2 Additional information

11. Conclusions

11.1. Range

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11.2. Population

11.3. Habitat for the species

11.4. Future prospects

11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

No change

The change is mainly due to:

b) Overall trend in conservation status

No change

The change is mainly due to:

11.8 Additional information

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 0

12.2 Type of estimate

Best estimate

12.3 Population size inside the network Method used

Based mainly on extrapolation from a limited amount of data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Distribution Map

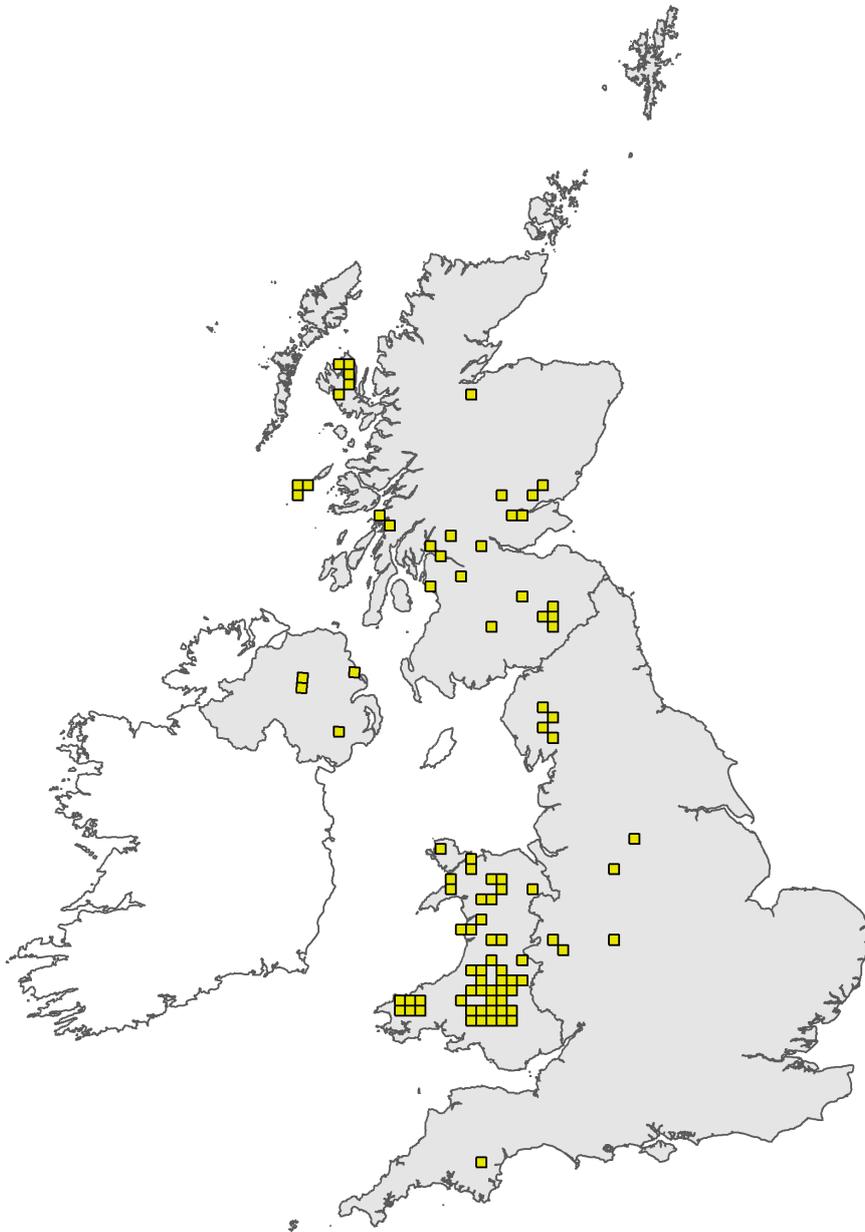


Figure 1: UK distribution map for S6216 - Slender green feather- moss (*Hamatocaulis vernicosus*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available species records within the current reporting period. For further details see the 2019 Article 17 UK Approach document.

Range Map

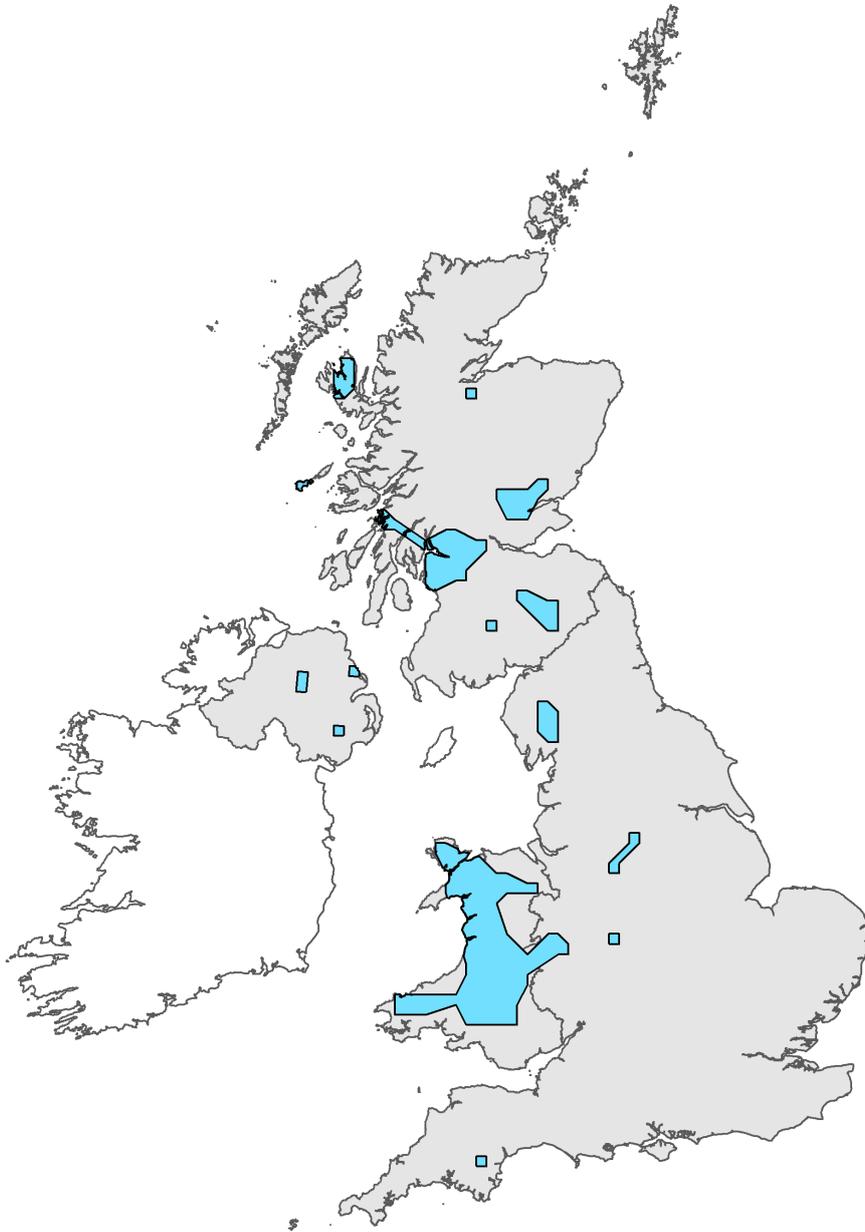


Figure 2: UK range map for S6216 - Slender green feather- moss (*Hamatocaulis vernicosus*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this species was 20km. For further details see the 2019 Article 17 UK Approach document.

Explanatory Notes

Species name: *Hamatocaulis vernicosus* (6216)

Field label	Note
2.3 Distribution map	This is a plant of neutral flushes and fens, often with <i>Calliergonella cuspidata</i> , <i>Sphagnum contortum</i> and <i>Warnstorfia exannulata</i> . 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. 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

Species name: *Hamatocaulis vernicosus* (6216) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	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. There is no reliable historic baseline for the species in GB or NI. Hence assessing any trend in population is virtually impossible.
5.7 Long term trend; Direction	See 5.3
6.2 Population size	In NI the species has only recently been re-discovered at 4 new sites (Knock Dhu and Sallagh Braes ASSI; Slieve Gallion (2 sites) and Slieve Croob, which in combination take in 8 1x1km squares). The previous record of the species 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 or population.
6.8 Short term trend; Direction	See 5.3
6.12 Long term trend; Direction	See 5.3
7.1 Sufficiency of area and quality of occupied habitat	Since the current habitat area is unknown, it is difficult to quantify trends in habitat. Neutral flushes and fens will almost certainly have suffered a net loss since the turn of the 20th Century, but over the past decade this decline is thought to have been curbed, due to active management and protection of some of the sites that support this species.
8.1 Characterisation of pressures/ threats	The species is found in neutral flushes and fens, and 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: fertilisation, grazing (particularly undergrazing) - which may allow more robust species to out-compete, forest planting (esp. conifer plantation in the uplands), water pollution (e.g. eutrophication and acidification) and drainage. 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.
11.5 Overall assessment of Conservation Status	Of the assessment parameters, it is only possible to make an assessment of Range (which is believed to be Favourable). Therefore, there is insufficient data to make an assessment of conservation status.
12.1 Population size inside the pSCIs, SCIs and SACs network	The species is not recorded on any SACs; however, it has been noted at Knock Dhu and Sallagh Braes ASSI in County Antrim.