

**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:

S1413 - Clubmosses (*Lycopodium* sp.)

IMPORTANT NOTE – PLEASE READ

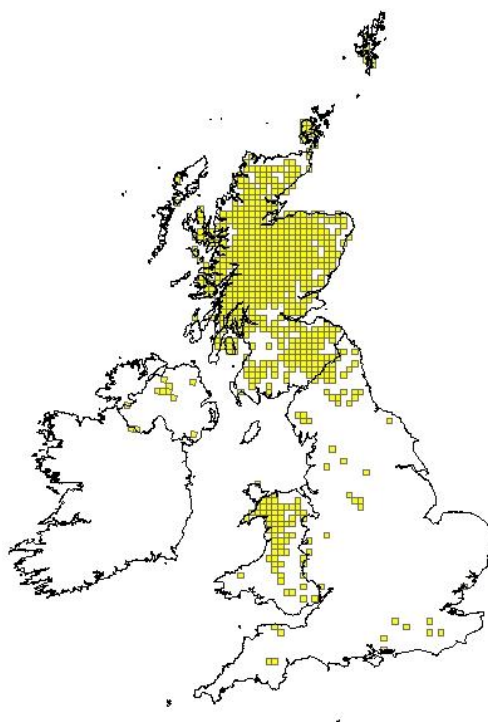
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Scottish Natural Heritage** and refers only to the state of the habitat/species in **Scotland** - it does not constitute an 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> | |
|--------------------|--|-----------------------|
| 0.2 Species | 0.2.1 Species code | S1413 |
| | 0.2.2 Species scientific name | <i>Lycopodium sp.</i> |
| | 0.2.3 Alternative species scientific name Optional | |
| | 0.2.4 Common name Optional | Clubmosses |

1.1 Maps

| | | | |
|-------------------------------|--|------------------|--------------|
| 1.1.1 Distribution map | | Sensitive | False |
|-------------------------------|--|------------------|--------------|



| | | | |
|--|---|--|--|
| 1.1.2 Method used - map | Estimate based on expert opinion with no or minimal sampling Since the NBN does not have post-2007 records BSBI was asked for records post 2007 - 2012. BSBI (data held on the distributional database). | | |
| 1.1.3 Year or period | 2007-2012 | | |
| 1.1.4 Additional distribution map | False | | |

| | |
|------------------------|--|
| 1.1.5 Range map | |
| | |

| | |
|--|--|
| 2.1 Biogeographical region & marine regions | ATL |
| 2.2 Published sources | <p>"No published sources of data were used since the previous assessment in 2007. For the previous assessment the following published data was used: PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press In addition the species distribution used the Vascular Plant Database, Botanical Society of the British Isles (BSBI) (via the NBN Gateway www.searchnbn.net for the date range 1987 - 1999). Since the 2007 report there have not been additional records submitted to the NBN by BSBI (2007 onwards). However BSBI has received some records which are on its unpublished Distributional Database. These have been used to inform this assessment."</p> <p>No published sources of data were used since the previous assessment in 2007. For the previous assessment the following published data was used: PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press In addition the species distribution used the Vascular Plant Database, Botanical Society of the British Isles (BSBI) (via the NBN Gateway www.searchnbn.net for the date range 1987 - 1999). Since the 2007 report there have not been additional records submitted to the NBN by BSBI (2007 onwards). However BSBI has received some records which are on its unpublished Distributional Database. These have been used to inform this assessment.</p> |

| | |
|--|---|
| 2.3 Range | |
| 2.3.1 Surface area Range | |
| 2.3.2 Method used Surface area of Range | <p>Estimate based on expert opinion with no or minimal sampling</p> <ol style="list-style-type: none"> 1. BSBI data via the NBN Gateway www.searchnbn.net data for the period 1987 - 1999 2. BSBI Distributional Database records from 2007 - 2012 <p>Lycopodium species are likely to be under-recorded.</p> |
| 2.3.3 Short-term trend Period | 2007-2012 |
| 2.3.4 Short term trend Trend direction | unknown |
| | Indeterminate. |
| 2.3.5 Short-term trend Magnitude | a) Minimum |
| | BSBI distributional database for the period 2007 -2012. |

| | | |
|---|--|--------------|
| | b) Maximum | |
| | | |
| 2.3.6 Long-term trend Period | | |
| | | |
| 2.3.7 Long-term trend Trend direction | unknown | |
| | Indeterminate. | |
| 2.3.8 Long-term trend Magnitude | a) Minimum | |
| Optional | Indeterminate. | |
| | b) Maximum | |
| | | |
| 2.3.9 Favourable reference range | a) Value in km² | |
| | Indeterminate. | |
| | b) Operator for FRR | |
| | | |
| | c) FRR is unknown (indicated by "true") | True |
| | | |
| | d) Method used to set FRR | |
| | | |
| 2.3.10 Reason for change | a) Genuine change? | False |
| Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to... | | |
| | b) Improved knowledge/more accurate data? | False |
| | Indeterminate. | |
| | c) Use of different method (e.g. "Range tool")? | False |
| | | |

| 2.4 Population | | |
|--|--|--|
| 2.4.1 Population size estimation (using individuals or agreed exceptions where possible) | a) Unit | |
| | b) Minimum | |
| | c) Maximum | |
| 2.4.2 Population size estimation (using population unit other than individuals) Optional (<i>if 2.4.1 filled in</i>) | a) Unit | number of map 10x10 km grid cells |
| | b) Minimum | 559 |
| | c) Maximum | 559 |
| 2.4.3 Additional information on population estimates / conversion Optional | a) Definition of "locality" | |
| | b) Method to convert data | |
| | c) Problems encountered to provide population size estimation | Suggest using count of post-1987 records from BSBI atlas for the two widespread <i>Lycopodium</i> species. |
| 2.4.4 Year or period | 2007-2012 | Data obtained from BSBI for the period 2007-2012. |
| 2.4.5 Method used Population size | Absent data | BSBI Distributional Database, but very little information. Data deficient. |
| 2.4.6 Short-term trend Period | | Indeterminate |
| 2.4.7 Short-term trend Trend direction | unknown | |
| 2.4.8 Short-term trend Magnitude | a) Minimum | |
| | b) Maximum | |

| | | |
|---|--|-------------|
| | | |
| | c) Confidence interval | |
| 2.4.9 Short-term trend Method used | Indeterminate | |
| 2.4.10 Long-term trend – Period | Indeterminate | |
| 2.4.11 Long-term trend Trend direction | unknown | |
| 2.4.12 Long-term trend Magnitude Optional | a) Minimum | |
| | b) Maximum | |
| | c) Confidence interval | |
| | | |
| 2.4.13 Long term trend Method used | 0 1. BSBI Distributional Database 2007-2012. 2. Vascular Plant Database, Botanical Society of the British Isles (BSBI) (via the NBN Gateway www.searchnbn.net for the range 1987 - 1999). Due to a lack of data it is not possible to identify a trend for <i>Lycopodium</i> species based upon empirical data. | |
| 2.4.14 Favourable reference population | a) Number of individuals/agreed exceptions/other units | |
| | BSBI Distributional Database + Vascular Plant Database, Botanical Society of the British Isles (BSBI) (via the NBN Gateway www.searchnbn.net). | |
| | b) Operator | |
| | c) FRP is unknown indicated by "true" | True |

| | | |
|---|--|--------------|
| | d) Method used to set FRP | |
| 2.4.15 Reason for change Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to: | a) Genuine change? | False |
| | b) Improved knowledge/more accurate data? | False |
| | c) Use of different method (e.g. "Range tool")? | False |
| | Indeterminate. | |
| | | |

| | | |
|--|---|---|
| 2.5 Habitat for the species | | |
| 2.5.1 Area estimation | | |
| 2.5.2 Year or period | | |
| 2.5.3 Method used Habitat for the species | Absent data | |
| 2.5.4 Quality of the habitat | a) Habitat quality | Good |
| | b) Assessment method | The assessment based upon expert opinion rather than upon empirical information. Lycopodium species may occur on heathland or peatland which might appear to be in poor condition. |
| | The assessment based upon expert opinion rather than upon empirical information. Lycopodium species may occur on heathland or peatland which might appear to be in poor condition. Refer to Article 17 data for wet heathland, blanket mire and Caledonian pinewood. | |
| 2.5.5 Short-term trend Period | Indeterminate | |
| 2.5.6 Short-term trend Trend direction | unknown Refer to Article 17 data for wet heathland, blanket mire and Caledonian pinewood. | |
| 2.5.7 Long-term trend Period | Refer to Article 17 data for wet heathland, blanket mire and Caledonian pinewood. | |

| | | |
|---|--|--------------|
| 2.5.8 Long-term trend Trend direction | unknown | |
| | Refer to Article 17 data for wet heatland, blanket mire and Caledonian pinewood. | |
| 2.5.9 Area of suitable habitat for the species | a) Value in km² | |
| | Refer to Article 17 data for wet heatland, blanket mire and Caledonian pinewood. | |
| | b) Absence of data indicated as '0' | |
| 2.5.10 Reason for change Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to | a) Genuine change? | False |
| | | |
| | b) Improved knowledge/more accurate data? | False |
| | | |
| | c) Use of different method (e.g. "Range tool")? | False |
| | | |

| 2.6 Main pressures | | |
|--|--|-------------------------------|
| a) Pressure | b) Ranking | c) Pollution qualifier |
| | H = high importance M = medium importance L = low importance | |
| A01: Cultivation | L | |
| A04: grazing | L | |
| A08: Fertilisation | L | |
| J02: human induced changes in hydraulic conditions | L | |
| | | |

Pressures are likely to be site-specific, local and in many cases not subject to a statutory consultation.

| | |
|--------------------------------------|--|
| 2.6.1 Method used – Pressures | based only on expert judgements |
| | Previous assessment published in 2007. |

| 2.7 Threats | | |
|--------------------|--|-------------------------------|
| a) Threat | b) Ranking | c) Pollution qualifier |
| | H = high importance M = medium importance L = low importance | |
| A01: Cultivation | L | |

| | | |
|--|---|--|
| A04: grazing | L | |
| A08: Fertilisation | L | |
| J02: human induced changes in hydraulic conditions | L | |
| | | |

Threats are likely to be site-specific, local and in many cases not subject to a statutory consultation.

2.7.1 Method used – Threats

expert opinion

Previous assessment published in 2007.

2.8 Complementary information

2.8.1 Justification of % thresholds for trends

2.8.2 Other relevant information

The taxonomy of *Lycopodium* records is complicated by the possible occurrence of the difficult-to-identify species *Lycopodium lagopus*. Establishing the population and distribution of *Lycopodium lagopus* requires a specialist survey. (See RUMSEY, F.J., 2007. An overlooked boreal clubmoss *Lycopodium lagopus* (Laest. ex Hartm.) Zinserl. ex Kusen. (Lycopodiaceae) in Britain. *Watsonia* 26, 477-480.)

All *Lycopodium* species would benefit from a dedicated survey to estimate the population and range.

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All *Lycopodium* species would benefit from a dedicated survey to estimate the population and range.

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
b) Minimum
c) Maximum
3.1.2 Method used
3.1.3 Trend of population size within the network
 (short-term trend)

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 |
| | | | | | | | | | | | | | | | |