

Report under The Conservation of Habitats and
Species Regulations 2017 (as amended),
Regulation 9A

2019-2024

Conservation status assessment for the species:

S1409 - Bog-mosses

(*Sphagnum* spp.)

England



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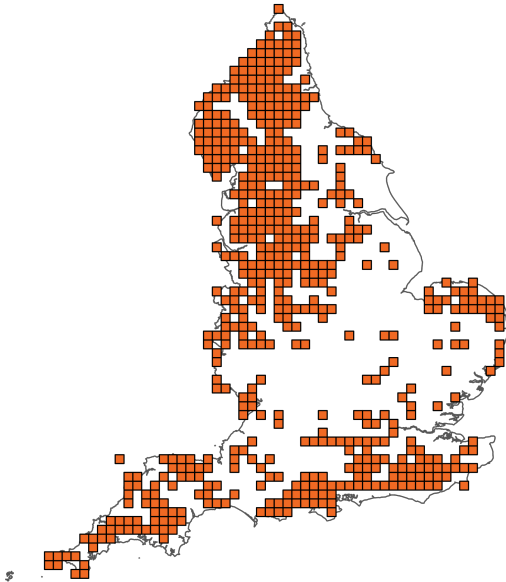
Important note - Please read

- The information in this document represents the England Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A, for the period 2019-2024.
- It is based on supporting information provided by Natural England, which is documented separately.
- The Habitats Regulations reporting 2019-2024 Approach Document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- Maps showing the distribution and range of the species are included.
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the assessments. Further underpinning explanatory notes are available in the related country reports.
- 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; and/or (iii) the field was not relevant to this species (section 12 National Site Network coverage for Annex II species).

Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the [JNCC website](#).

Assessment Summary: Bog-mosses

Distribution Map



Range Map

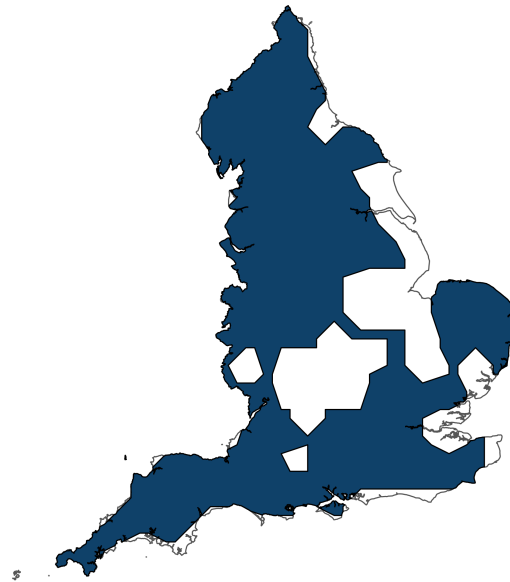


Figure 1: England distribution and range map for S1409 - Bog-mosses (*Sphagnum* spp.). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S1409 - Bog-mosses (*Sphagnum* spp.). Overall conservation status for species is based on assessments of range, population, habitat for the species, and future prospects.

Overall Conservation Status (see section 11)

Unfavourable-inadequate (U1)

Breakdown of Overall Conservation Status

Range (see section 5)

Favourable (FV)

Population (see section 6)

Favourable (FV)

Habitat for the species (see section 7)

Unfavourable-inadequate (U1)

Future prospects (see section 10)

Unfavourable-inadequate (U1)

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National Level

1. General information

| | |
|---|----------------------|
| 1.1 Country | England |
| 1.2 Species code | S1409 |
| 1.3 Species scientific name | <i>Sphagnum</i> spp. |
| 1.4 Alternative species scientific name | |
| 1.5 Common name | Bog-mosses |
| Annex(es) | V |

2. Maps

| | |
|-----------------------------------|--|
| 2.1 Sensitive species | No |
| 2.2 Year or period | 2010-2024 |
| 2.3 Distribution map | Yes |
| 2.4 Distribution map; Method used | Complete survey or a statistically robust estimate |

2.5 Additional information

For distribution of individual species, the British Bryological Society provide an accessible display map utility (data to 2019) developed by Lowell (last updated Aug. 2023).

3. Information related to Annex V Species

| | |
|---|-----|
| 3.1 Is the species taken in the wild / exploited? | Yes |
| 3.2 What measures have been taken? | |
| a) Regulations regarding access to property | No |
| b) Temporary or local prohibition on 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 |
| Other measures | Yes |
| Other measures description | |

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

a) Unit No unit - not reported

Table 2: Quantity taken from the wild during the reporting period (see 3.3a for units). For species with defined hunting seasons, Season 1 refers to 2018/2019 (autumn 2018 to spring 2019), and Season 6 to 2023/2024. For species without hunting seasons, data are reported by calendar year: Year 1 is 2019, and Year 6 is 2024.

| | Season/ year 1 | Season/ year 2 | Season/ year 3 | Season/ year 4 | Season/ year 5 | Season/ year 6 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| b) Minimum | - | - | - | - | - | - |
| c) Maximum | - | - | - | - | - | - |
| d) Unknown | Yes | Yes | Yes | Yes | Yes | No |

3.4: Hunting bag or quantity taken in the wild; Method used

3.5: Additional information

There has been increased emphasis on peat protection and peatland restoration during the reporting period with targets specified in the England Peat Action Plan (UK, 2021),

including consultation on banning the sale of peat and peat containing products with a view to phasing out the use of peat in horticulture in 2021, recognising that the voluntary approach has not delivered. The action plan addresses all types of peat, including fen (sedge) peat but would have beneficial effects for Sphagnum derived peat.

Biogeographical Level

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs ATL

4.2 Sources of information

See section 14 References

5. Range

5.1 Surface area (km²) 98,268.59

5.2 Short-term trend; Period 2013-2024

5.3 Short-term trend; Direction Stable

5.4 Short-term trend; Magnitude

a) Estimated minimum

b) Estimated maximum

c) Pre-defined range

d) Unknown

e) Type of estimate

f) Rate of decrease

5.5 Short-term trend; Method used Based mainly on expert opinion with very limited data

5.6 Long-term trend; Period

5.7 Long-term trend; Direction

5.8 Long-term trend; Magnitude

a) Minimum

b) Maximum

c) Rate of decrease

5.9 Long-term trend; Method used

5.10 Favourable Reference Range (FRR)

a) Area (km²)

b) Pre-defined increment Current range is less than 2% smaller than the FRR

c) Unknown No

d) Method used Reference-based approach

e) Quality of information low

5.11 Change and reason for change in surface area of range

a) Change No

b) Genuine change

c) Improved knowledge or more accurate data

d) Different method

e) No information

f) Other reason

g) Main reason

5.12 Additional information

Whilst it is not possible to compare directly the current range with previous range in England as no previous value exists for range of Sphagnum spp. for England only, there is evidence of historic decline in extent of peat bogs due to air quality, drainage and land use changes, now compounded with climate change effects (Ripton, 2024). These pressures are still current, but during this reporting period, significant emphasis has been placed on peat bog restoration, including the re-establishment of active peat formation by bog mosses, so on balance the trends in range are likely to be relatively

stable at the moment. The impact of collection of Sphagnum spp (Annex V) for horticulture (eg hanging baskets, wreath making) is likely to be minor compared to the aforementioned pressures, and compared to the commercial extraction of peat which results in the destruction in the active layer of live bog mosses on the surface of the peat bogs. As the commercial viability of these enterprises declines there is a corresponding reduction in this form of Sphagnum loss.

6. Population

6.1 Year or period 2010-2024

6.2 Population size (in reporting unit)

a) Unit number of map 10x10 km grid cells

b) Minimum

c) Maximum

d) Best single value 567

6.3 Type of estimate Best estimate

6.4 Quality of extrapolation to reporting unit

6.5 Additional population size (using population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

e) Type of estimate

6.6 Population size; Method used Based mainly on extrapolation from a limited amount of data

6.7 Short-term trend; Period 2013-2024

6.8 Short-term trend; Direction Stable

6.9 Short-term trend; Magnitude

a) Estimated minimum

b) Estimated maximum

c) Pre-defined range

d) Unknown

e) Type of estimate

f) Rate of decrease

6.10 Short-term trend; Method used Based mainly on expert opinion with very limited data

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

d) Rate of decrease

6.14 Long-term trend; Method used

6.15 Favourable Reference Population (FRP)

ai) Population size 450

aii) Unit number of map 10x10 km grid cells

b) Pre-defined increment

c) Unknown No

d) Method used Reference-based approach

e) Quality of information moderate

6.16 Change and reason for change in population size

a) Change Yes

| | |
|--|-----|
| b) Genuine change | Yes |
| c) Improved knowledge or more accurate data | |
| d) Different method | |
| e) No information | |
| f) Other reason | |
| g) Main reason | |

6.17 Additional information

In the time period 2010-2024 there were 567 10x10km grid squares occupied by Sphagnum species in England (BBS data, accessed 2025). The value reported for England in the third reporting round (JNCC, 2013) was 493 minimum and 550 maximum 10x10km grid cells (JNCC, 2013), which concurs with this value. England was not reported separately in 2019 the fourth reporting round, consequently there is insufficient data to compare directly between third, fourth and fifth reporting rounds. However, it was reported in 2019, that despite the ongoing pressures, there had been few, if any, losses of Sphagnum from entire 10x10 km squares since 2013 (the main unit used for the Favourable Reference Population (FRP)) and this is likely to still be the case. Using an additional population size unit of measure for the time period (2010-2024) there were 3074 1x 1km squares occupied by Sphagnum species in England only. Studying individual species at this resolution for short term, long term and reporting periods would provide more detail of the changes which varies between species and regions, but viewed as a group of species it is likely that the trend is stable at 10km² resolution for Sphagnum species in England. The Favourable Reference Population (FRP) in 2013 and 2019, for the UK was set as ‘approximately equal to’ that current in 2013, given as 1,897 (minimum) to 1,961 (maximum) number of map 10x10 km grid cells in the UK, considered to be large enough to maintain a viable population and no less than when the Habitats Directive came into force in the UK (JNCC, 2019). For England only, the FRP value was given as 450 10km squares (JNCC, 2013), with the operator ‘more than’ and this is likely to be met in this reporting round, even if the operator ‘less than 5% smaller’ is applied for England.

6.18 Age structure, mortality and reproduction deviation No deviation from normal

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat (for long-term survival)

| | |
|--|---------|
| a) Is area of occupied habitat sufficient? | Yes |
| b) Is quality of occupied habitat sufficient? | No |
| c) If No or Unknown, is there a sufficiently large area of unoccupied habitat of suitable quality? | Unknown |

7.2 Sufficiency of area and quality of occupied habitat; Method used

| | |
|--|---|
| a) Sufficiency of area of occupied habitat; Method used | Based mainly on expert opinion with very limited data |
| b) Sufficiency of quality of occupied habitat; Method used | Based mainly on extrapolation from a limited amount of data |

7.3 Short-term trend; Period 2019-2024

7.4 Short-term trend; Direction Stable

7.5 Short-term trend; Method used Based mainly on expert opinion with very limited data

7.6 Long-term trend; Period

7.7 Long-term trend; Direction

7.8 Long-term trend; Method used

7.9 Additional information

The large scale historic decline in the area of habitat for the species, especially upland and lowland peat bogs, caused by extensive drainage for forestry, agriculture and commercial peat extraction has slowed but attrition continues on a smaller scale and importantly the quality of habitat is compromised by many land use and management pressures. The pressures are affecting the suitability of the habitats for Sphagnum species, through altering the hydrology, the vegetation composition, also there are

changes in temperature and rainfall patterns due to climate change, and although atmospheric quality improved after the reduction in industrial emissions causing acid rain, the effects of Nitrogen deposition are increasingly understood (APIS, 2025). However, some of these pressures are being offset by several initiatives to restore degraded peat lands through the wide ranging England Peat Action Plan (UK Government, 2021) which includes measures for land management, restoring hydrology and habitat and reintroduction of species. The restored habitat in many cases, for example particularly after peat extraction, is unlikely to be suitable for the same species for a considerable period of time, so area of habitat may be stabilising but quality remains variable and differs depending on the specificity of the species involved.

8. Main pressures

8.1 Characterisation of pressures

Table 3: Pressures affecting the species, including timing and importance/impact ranking. Pressures are defined as factors acting currently and/or during the reporting period (2019–2024). Rankings are: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

| Pressure | Timing | Ranking |
|---|--|----------|
| PJ14: Other climate related changes in abiotic conditions | Ongoing and likely to be in the future | High (H) |
| PA07: Intensive grazing or overgrazing by livestock | Ongoing and likely to be in the future | High (H) |
| PA08: Extensive grazing or undergrazing by livestock | Ongoing and likely to be in the future | High (H) |
| PA09: Burning for agriculture | Ongoing and likely to be in the future | High (H) |
| PA17: Agricultural activities generating pollution to surface or ground waters (including marine) | Ongoing and likely to be in the future | High (H) |
| PA18: Agricultural activities generating air pollution | Ongoing and likely to be in the future | High (H) |
| PB01: Conversion to forest from other land uses, or afforestation (excluding drainage) | Ongoing and likely to be in the future | High (H) |
| PB23: Physical alteration of water bodies for forestry (including dams) | Ongoing and likely to be in the future | High (H) |
| PC05: Peat extraction | Ongoing and likely to be in the future | High (H) |

| | | |
|--|--|----------|
| PL02: Drainage (mixed or unknown drivers) | Ongoing and likely to be in the future | High (H) |
| PK04: Atmospheric N-deposition | Ongoing and likely to be in the future | High (H) |
| PJ01: Temperature changes and extremes due to climate change | Ongoing and likely to be in the future | High (H) |

8.2 Sources of information

See section 14 References

8.3 Additional information

PJ14: The frequency of Sphagnum desiccation events is projected to increase by 44% to 82% which will likely result in decreased success of hummock forming species, particularly at easterly sites where rainfall is lower, though wetter microsites will likely allow more drought-tolerant species to persist.

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 National Site Network

9.4 Response to measures

Medium-term results (within the next two reporting periods, 2025–2036)

9.5 List of main conservation measures

Table 4: Key conservation measures addressing current pressures and/or anticipated threats during the next two reporting periods (2025–2036). Measures are ranked by importance/impact: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

| Conservation measure | Ranking |
|----------------------|---------|
|----------------------|---------|

| | |
|--|------------|
| MA01: Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land | Medium (M) |
| MA03: Maintain existing extensive agricultural practices and agricultural landscape features | Medium (M) |
| MA04: Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures | High (H) |
| MA05: Adapt mowing, grazing and other equivalent agricultural activities (e.g. burning) | High (H) |
| MA10: Reduce/eliminate point or diffuse source pollution to surface or ground waters (including marine) from agricultural activities | Medium (M) |
| MA11: Reduce/eliminate air pollution from agricultural activities | Medium (M) |
| MA13: Manage agricultural drainage and water abstraction (incl. the restoration of drained or hydrologically altered habitats) | Medium (M) |
| MB01: Prevent conversion of (semi-) natural habitats into forests and of (semi-) natural forests into intensive forest plantation | Medium (M) |
| MB14: Manage drainage and water abstraction for forestry (inc. restoration of drained or hydrologically altered habitats) | Medium (M) |
| MC01: Adapt/manage extraction of non-energy resources | Medium (M) |
| MC12: Manage water abstraction for resource extraction and energy production | Medium (M) |
| MJ02: Implement climate change adaptation measures | High (H) |
| MS02: Reintroduce species from the directives | Medium (M) |
| MS03: Restoration of habitat of species from the directives | Medium (M) |

9.6 Additional information

Conservation measures have been included for the Sphagnum species group (Annex V), despite only being required to be reported for Annex II species, as environmental pressures are considered to be significant and there are many measures currently being undertaken to improve habitat area and quality through the UK England Peat Action Plan (UK Government, 2021), which are making a difference, or have the potential to

improve, range, habitat area, quality and population size. Unregulated and uncertified collection of bog mosses for horticultural use is not the most serious pressure on the Sphagnum as a group of species, but legal commercial harvesting of peat has been, with knock on destruction on the surface living layer of Sphagnum mosses and although continuing, is at a declining rate, with the ambition is to reduce this still further. There is some effect from unregulated harvesting of moss in horticultural and cultural use (eg hanging baskets, wreath making) and peat in horticultural use but it should be noted that mosses for use in horticulture and in peat, are not exclusively Sphagnum mosses with other bryophyte species being taken, and with commercially harvested peat also includes sedge peat in origin.

10. Future prospects

10.1a Future trends of parameters

| | |
|------------------------------------|--|
| ai) Range | Overall stable |
| bi) Population | Overall stable |
| ci) Habitat for the species | Negative - slight/moderate deterioration |

10.1b Future prospects of parameters

| | |
|-------------------------------------|------|
| aii) Range | Good |
| bii) Population | Good |
| cii) Habitat for the species | Poor |

10.2 Additional information

Future prospects for Sphagnum remain a mixed picture as considerable environmental and land use pressures remain, despite the increase in emphasis on the protection and restoration of peat bogs which is the main habitat for the species. Added to this are the pressures brought by climate change with warming temperatures and altered rainfall patterns, compounded by air quality and atmospheric nitrogen deposition, worse in certain regions and more impactful on some species than others.

11. Conclusions

| | |
|------------------------|-----------------|
| 11.1 Range | Favourable (FV) |
| 11.2 Population | Favourable (FV) |

| | |
|---|------------------------------|
| 11.3 Habitat for the species | Unfavourable-inadequate (U1) |
| 11.4 Future prospects | Unfavourable-inadequate (U1) |
| 11.5 Overall assessment of Conservation Status | Unfavourable-inadequate (U1) |
| 11.6 Overall trend in Conservation Status | Stable |

11.7 Change and reason for change in conservation status

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

11.7 Change and reason for change in conservation status trend

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

11.8 Additional information

Range and population are regarded as overall stable, with reasonable future prospects but there are still substantial environmental pressures on habitat, the declines in area possibly levelling off; some habitat restoration measures effective for more widespread species but as yet unproven for some of the more sensitive species, and with substantive concerns remaining regarding climate change (Ritson, 2024).

12. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network

a) Unit

b) Minimum

c) Maximum

d) Best single value

12.2 Type of estimate

12.3 Population size inside the network; Method used

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

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

12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction

12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used

12.8 Additional information

No additional information

13. Complementary information

13.1 Justification of percentage thresholds for trends

No justification information

13.2 Trans-boundary assessment

No trans-boundary assessment information

13.2 Other relevant information

No other relevant information

14. References

Biogeographical and marine regions

4.2 Sources of information

APIS, 2025 'Air Pollution Information System' <https://www.apis.ac.uk/>

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Blockeel, T.L, Bell, N.E., Hill, M.O., Hodgetts, N.G., Long, D.G., Pilkington, S.L. & Rothero, G.P., 2020 'A new checklist of the bryophytes of Britain and Ireland.' Journal of Bryology online, March 2021. <https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.britishbryologicalsociety.org.uk%2Fwp-content%2Fuploads%2F2021%2F03%2FBBS-crossref-2008-to-2020-final.xlsx&wdOrigin=BROWSELINK>

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Hodgetts et al., 2019 'A miniature world in decline: European Red List of Mosses, Liverworts and Hornworts.' IUCN <https://portals.iucn.org/library/sites/library/files/documents/RL-4-027-En.pdf>

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UK Government, 2021 England Peat Action Plan, Together for our Planet, May 2021, OGL, Crown Copyright. <https://assets.publishing.service.gov.uk/media/6116353fe90e07054eb85d8b/england-peat-action-plan.pdf>

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Main pressures

8.2 Sources of information

No sources of information

15. Explanatory Notes

| Field label | Note |
|--|--|
| 1.4: Alternative species scientific name | All the Sphagnum species known to occur in Britain and Ireland are included in this group (Blockeel et al, 2020), now considered to be 42 species, previously 36 (JNCC, 2019). |
| 2.1: Sensitive species | Not sensitive, although the different species vary in distribution and abundance. Many species are common and widespread, whilst several are of more restricted distribution. Nationally scarce at GB level: Sphagnum affine, S. lindbergii (not England), S. majus (north east England), S. platyphyllum (north west England), S. pulchrum, S. riparium, S. skyense (not England), S. strictum (north west England), S. subsecundum; Nationally rare (GB): S. balticum (northern England) (Pescott, 2016). The rarer, more local species tend to be upland species in more remote areas or very rare where they do occur and for these reasons less vulnerable to collection and harvesting pressures. |
| 2.3: Distribution map | The distribution map is derived from all Sphagnum records from 2010-2024 held in the British Bryological Society database (Accessed, 2025). |
| 2.5: Additional information | No distribution map was produced for the 2019 reporting round (JNCC, 2019) due to insufficient data but records in the BBS are now regarded as more representative given the increasing profile of the species, recognition of the level of importance of the species in carbon retention, climate mitigation, water resource management and habitat provision and consequently improved recording in recent years. |
| 3.2: Which of the measures in Art. 9a have been taken? | Several peatland restoration projects have propagated Sphagnum species ex situ and reintroduced them, using various techniques such as plug planting and spraying gel mixes (Roberts, 2022) to degraded upland and lowland bogs in England, and guidance was written as part of an EU LIFE project (Moors for the Future Partnership). There |

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| | <p>are discussions in Wales regarding certification of moss harvesting, and The Scottish Moss Collecting Code provides guidance in Scotland, but there is currently no regulatory mechanism for controlling Sphagnum harvest in the UK other than broad legislation under the 1981 Wildlife and Countryside Act, the license requirement for Sphagnum balticum (Schedule 8 WCA 1981) and the 1968 Theft Act.</p> |
| 3.5: Additional information | <p>There is evidence of limited Sphagnum harvesting in the UK, but no evidence that this is causing significant damage to Sphagnum populations nationally or locally. The species affected include the common carpet forming species such as <i>S. quinquefarium</i>, <i>S. capillifolium rubellum</i> and <i>S. fallax</i>. The harvest is unregulated and uncertified, but there is existing guidance on moss harvesting in Scotland (The Scottish Moss Collection Code). There are also discussions around sustainable, certified moss harvesting in Wales (Wong et al. 2016). This push for sustainable moss harvest focuses on young conifer plantations rather than other Sphagnum habitats such as bog, heath, fen or native woodland. There is no evidence to indicate that the situation is different in England, Northern Ireland or Scotland. There is possibly a decline in moss harvesting (not just Sphagnum harvesting) in Wales due to negative publicity about the conservation impacts of the use of peat in horticulture; introduction of alternative linings for hanging baskets (coir) and importation of dried moss.</p> |
| 5.1: Surface area | <p>The current range surface area for England is 98268.59km² (from distribution data 2010-2024) using Alpha Hull 18km. No distribution map was created for the 2019 reporting and therefore no Range surface area was calculated at that time, with which to compare the current range data. The Range surface area in the 2013 reporting was 224,732 km² at UK level and since there was no evidence of any significant decline in range from that reported in 2013, it was not recalculated in 2019 reporting.</p> |
| 5.2: Short-term trend; Period | 2013-2024 |

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| 5.3: Short-term trend; Direction | Surmised to be largely stable for Sphagnum species as a whole, though there will be regional differences and some species are more vulnerable than others to pressures on the environment due to their more exacting ecological requirements, especially hydrology, hydrochemistry and atmospheric conditions. The fortunes of Sphagnum are closely linked to the fortunes of upland and lowland peat bogs, and the success of restoration projects in restoring active peat formation, on which there has been considerable emphasis during this reporting round (UK Government, 2021). |
| 5.5: Short-term trend; Method used | Based mainly on expert opinion with very limited data |
| 5.10: Favourable Reference Range (FRR) | The Favourable Reference Range (FRR) used in 2013 and 2019, was 'approximately equal to', the range in 2013 which was 224,732 km ² . This value was considered to be large enough to support a viable population and no lower than the range estimate when the Habitats Directive came into force in the UK. The operator applied to the FRR in this reporting round has been changed to 'less than 2% smaller' which replaces FRR 224,732km ² and the operator 'approximately equal to'. |
| 5.11: Change and reason for change in surface area of range | There is likely to have been fluctuation in the surface area of range, with both losses due to continued habitat degradation but also gains due to peat bog restoration and reduction in commercial harvesting, with minor impacts from small scale collection for horticulture. |
| 6.1: Year or Period | 2010-2024 |
| 6.2: Population size | Reporting unit used in 2013 was 10x10km grid cells (hectads) and the value for England was estimated to be between 493 10km squares (minimum) and 550 10km squares (maximum). The reporting unit used in 2019 was retained as 10x10km grid cells (hectads) but no values were given at that time, however it was judged that there had been no losses of hectads in that reporting period (2013-2018) in the UK. The main population unit of measure has been retained here, and for the time period 2010-2024 (same as for the distribution map) there are an |

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| | estimated 567 10km grid cells occupied by Sphagnum species when treated as a group. |
| 6.5: Additional population size | In the period 2010-2024 there were 3074 occupied 1x1km squares (BBS, 2025). |
| 6.15: Favourable Reference Population (FRP) | The Favourable Reference Population (FRP) for the UK, set in 2013 and used in 2019 was 'approximately equal to' the value current in 2013, given as 1,897 (minimum) to 1,961 (maximum) number of map 10x10 km grid cells. An FRP operator was used because it was not possible to calculate the exact FRP. The FRP in 2013 was considered to be large enough to maintain a viable population and no less than when the Habitats Directive came into force in the UK (JNCC, 2019). For England only, the FRP value was given as 450 10km squares (JNCC, 2013), with the operator 'more than' . An operator has been retained 'less than 5% smaller' for this reporting round. |
| 7.9: Additional information | Information on habitat area and quality and trends is gleaned from current policy drivers and initiatives to protect the peat resource in UK and England (UK Government, 2021) and expert opinion based on a limited amount of data. The situation is also highly variable for the different species, some of which are much more local with restricted distribution and more exacting environmental requirements. |
| 8.1: Characterisation of pressures | Pressures are most extensive due to loss of habitat area and quality, with some effect from unregulated harvesting of moss in horticultural and cultural use (eg hanging baskets, wreath making) and peat in horticultural use. Mosses for use in horticulture and in peat are not exclusively Sphagnum mosses, with other bryophyte species being taken, with commercially harvested peat also includes sedge peat in origin. |
| 8.2: Sources of information | Ritson et al (2024) showed substantial projected losses in areas suitable for peatland by 2061–2080 under three bioclimatic envelope models for blanket bogs in Britain focussing on four national parks with significant peatland areas (Dartmoor, the Flow Country, the Peak District and Snowdonia). |

9.2: Main purpose of the measures taken

Conservation measures have been included for the Sphagnum species group (Annex V), despite only being required to be reported for Annex II species, as environmental pressures are considered to be significant and there are many measures currently being undertaken to improve habitat area and quality through the UK England Peat Action Plan (UK Government, 2021). Unregulated and uncertified collection of bog mosses for horticultural use is not the most serious pressure on the Sphagnum, but legal commercial harvesting of peat has been, with knock on destruction on the surface living layer of Sphagnum mosses and although continuing, is at a declining rate, with the ambition is to reduce this still further. Only one species Sphagnum balticum is protected by virtue of being on Schedule 8 of the Wildlife and Countryside Act 1981.