

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

2019-2024

Conservation status assessment for the species:

S1390 - Western rustwort

(Marsupella profunda)

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: Western rustwort

Distribution Map



Range Map



Figure 1: England distribution and range map for S1390 - Western rustwort (*Marsupella profunda*). 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 S1390 - Western rustwort (*Marsupella profunda*). 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-bad (U2)

Breakdown of Overall Conservation Status

Range (see section 5)

Unfavourable-bad (U2)

Population (see section 6)

Favourable (FV)

Habitat for the species (see section 7)

Unfavourable-inadequate (U1)

Future prospects (see section 10)

Unknown (XX)

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National Level

1. General information

1.1 Country	England
1.2 Species code	S1390
1.3 Species scientific name	<i>Marsupella profunda</i>
1.4 Alternative species scientific name	
1.5 Common name	Western rustwort
Annex(es)	II

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

No additional information

3. Information related to Annex V Species

3.1 Is the species taken in the wild / exploited?

3.2 What measures have been taken?

a) Regulations regarding access to property

b) Temporary or local prohibition on the taking of specimens in the wild and exploitation

c) Regulation of the periods and/or methods of taking specimens

d) Application of hunting and fishing rules which take account of the conservation of such populations

e) Establishment of a system of licences for taking specimens or of quotas

f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens

g) Breeding in captivity of animal species as well as artificial propagation of plant species

Other measures

Other measures description

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

a) Unit

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	-	-	-	-	-	-

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

3.5: Additional information

No additional information

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 (km ²)	568.8
5.2 Short-term trend; Period	2013-2024
5.3 Short-term trend; Direction	Increasing
5.4 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	Increasing > 100%
d) Unknown	
e) Type of estimate	Best estimate
f) Rate of decrease	
5.5 Short-term trend; Method used	Based mainly on extrapolation from a limited amount of data
5.6 Long-term trend; Period	2000-2024
5.7 Long-term trend; Direction	Decreasing
5.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	

5.9 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of data
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5.10 Favourable Reference Range (FRR)

a) Area (km ²)	1,310
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b) Pre-defined increment	
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c) Unknown	No
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d) Method used	Expert opinion
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e) Quality of information	
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5.11 Change and reason for change in surface area of range

a) Change	Yes
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b) Genuine change	No
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c) Improved knowledge or more accurate data	Yes
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d) Different method	No
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e) No information	No
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f) Other reason	No
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g) Main reason	Improved knowledge/more accurate data
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5.12 Additional information

No additional information

6. Population

6.1 Year or period	2019-2024
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6.2 Population size (in reporting unit)

a) Unit	number of map 1x1 km grid cells
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b) Minimum	
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c) Maximum	
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d) Best single value	29
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6.3 Type of estimate	Minimum
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	Complete survey or a statistically robust estimate
6.7 Short-term trend; Period	2013-2024
6.8 Short-term trend; Direction	Increasing
6.9 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	Increasing > 100%
d) Unknown	No
e) Type of estimate	Best estimate
f) Rate of decrease	
6.10 Short-term trend; Method used	Based mainly on extrapolation from a limited amount of data
6.11 Long-term trend; Period	2000-2024
6.12 Long-term trend; Direction	Decreasing
6.13 Long-term trend; Magnitude	
a) Minimum	

b) Maximum

c) Confidence interval

d) Rate of decrease

6.14 Long-term trend; Method used Based mainly on extrapolation from a limited amount of data

6.15 Favourable Reference Population (FRP)

ai) Population size 21

a ii) Unit number of map 1x1 km grid cells

b) Pre-defined increment

c) Unknown No

d) Method used Expert opinion

e) Quality of information

6.16 Change and reason for change in population size

a) Change Yes

b) Genuine change No

c) Improved knowledge or more accurate data Yes

d) Different method No

e) No information No

f) Other reason No

g) Main reason Improved knowledge/more accurate data

6.17 Additional information

No additional information

6.18 Age structure, mortality and reproduction deviation Unknown

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? Unknown

b) Is quality of occupied habitat sufficient? Unknown

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 extrapolation from a limited amount of 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 2013-2024

7.4 Short-term trend; Direction Decreasing

7.5 Short-term trend; Method used Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend; Period

7.7 Long-term trend; Direction

7.8 Long-term trend; Method used

7.9 Additional information

No additional information

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
PM07: Natural processes without direct or indirect influence from human activities or climate change	Ongoing and likely to be in the future	High (H)
PC13: Mining and extraction activities not referred to above	Ongoing and likely to be in the future	High (H)
PF05: Sports, tourism and leisure activities	Ongoing and likely to be in the future	Medium (M)

8.2 Sources of information

See section 14 References

8.3 Additional information

PM07: *Marsupella profunda* occurs in disused and active china clay quarries, and is reliant on the quarrying to produce fresh areas of substrate for colonisation. A cessation of this quarrying activity would pose a threat to the species, in particular due to the vulnerability of *Marsupella* to being out-competed by more vigorous taller vegetation.

PC13: *Marsupella profunda* is dependent on continued quarrying to provide suitable substrate, with disused quarries providing less suitable habitat as succession progresses. Declining china clay production means the future of this species is uncertain.

PF05: Off-road motorbiking activities may cause damage to *Marsupella profunda* colonies in disused china clay quarries.

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
MM01: Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes that occur without direct or indirect influence from human activities or climate change	High (H)

9.6 Additional information

No additional information

10. Future prospects

10.1a Future trends of parameters

ai) Range Unknown

bi) Population Unknown

ci) Habitat for the species Negative - slight/moderate deterioration

10.1b Future prospects of parameters

aii) Range Unknown

bii) Population Unknown

cii) Habitat for the species Unknown

10.2 Additional information

No additional information

11. Conclusions

11.1 Range Unfavourable-bad (U2)

11.2 Population Favourable (FV)

11.3 Habitat for the species Unfavourable-inadequate (U1)

11.4 Future prospects Unknown (XX)

11.5 Overall assessment of Conservation Status Unfavourable-bad (U2)

11.6 Overall trend in Conservation Status Unknown

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

No additional information

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 number of map 1x1 km grid cells

b) Minimum

c) Maximum

d) Best single value 2

12.2 Type of estimate Best estimate

12.3 Population size inside the network; Method used	Complete survey or a statistically robust estimate
12.4 Short-term trend of population size within the network; Direction	Stable
12.5 Short-term trend of population size within the network; Method used	Based mainly on extrapolation from a limited amount of data
12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction	Decreasing
12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used	Complete survey or a statistically robust estimate
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

British Bryological Society database (Accessed January 2025)

Blockeel, T.L., Bosanquet, S.D.S., Hill, M.O. & Preston, C.D. 2014. Atlas of British & Irish Bryophytes. Pisces Publications, Newbury.

Callaghan, D. A. (2022) A new IUCN Red List of the bryophytes of Britain, 2023, Journal of Bryology, 44:4, 271-389

Callaghan, D. 2022. Population status and ecology of the globally threatened liverwort *Marsupella profunda* in Britain. Unpublished report to Natural England

JNCC Article 17 Habitats Directive Report 2019. S1390 - Western rustwort (*Marsupella profunda*). <https://jncc.gov.uk/jncc-assets/Art17/S1390-EN-Habitats-Directive-Art17-2019.pdf> (Accessed February 2025)

Porley, R.D. 2013. *Marsupella profunda* account in England's Rare Mosses and Liverworts, Princeton University Press, Oxfordshire.

Main pressures

8.2 Sources of information

No sources of information

15. Explanatory Notes

Field label	Note
2.1: Sensitive species	A small and inconspicuous species that is not considered to be at risk from collecting, hence not sensitive.
2.2: Year or Period	Records from 2010-2024 (rather than 2019-2024) used for bryophyte species to provide a more complete distribution map
2.3: Distribution map	Data from British Bryological Society database (Accessed January 2025)
2.4: Distribution map; Method used	Survey data from Callaghan 2022 provides a good assessment of current distribution. Sites containing records of the species outside the St Austell China Clay Region were visited in 2022, although within the St Austell China Clay region only those locations within the St Austell Clay Pits SAC were surveyed. Between 2011-2022 surveys have covered around 15% of the St Austell China Clay region.
5.1: Surface area	This figure has been calculated using data from 2010-2024, as used for mapping. Due to increased surveying between 2019-2024 this is considered to represent the current reporting period despite the inclusion of data from previous reporting periods
5.3: Short-term trend; Direction	The previous reporting period 2013-2018 showed 2 occupied hectads with a range value of 187.61 km ² while the current reporting period 2019-2024 shows 3 occupied hectads and 568.8 km ² . This is likely due to increased recording effort due to the 2022 surveys.
5.4: Short-term trend; Magnitude	Percentage increase can be calculated, however, due to the increased recorder effort in the current reporting period any comparison with the previous reporting period will not show genuine change.
5.5: Short-term trend; Method used	The current reporting period 2019-2024 has good data, however, the previous reporting period had a very limited amount of data.
5.7: Long-term trend; Direction	Data starting from 2000 shows 4 occupied hectads, indicating that range has decreased when compared to the

	current reporting period. The last record of <i>Marsupella profunda</i> at Tregonning Hill (SW62) was in 2003.
5.10: Favourable Reference Range (FRR)	The FRR is the same as in 2018. The value is 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.
5.11: Change and reason for change in surface area of range	The short term trend showing an increase in range since 2013-2018 is likely due to increased recorder effort in 2022. The long term trend indicating a decrease in range is due to loss of the species from a site due to decrease in habitat suitability.
6.3: Type of estimate	Minimum selected as there are parts of the St Austell China Clay region which were not surveyed during this reporting period
6.8: Short-term trend; Direction	Previous reporting period 2013-2018 showed 7 1x1 km squares occupied while current reporting period 2019-2024 has 29 1x1 km squares occupied. This is likely due to increased recording effort due to the 2022 surveys
6.9: Short-term trend; Magnitude	Percentage increase can be calculated, however, due to the increased recorder effort in the current reporting period any comparison with the previous reporting period will not show genuine change.
6.12: Long-term trend; Direction	Data starting from 2000 show 33 1x1 km squares occupied, indicating a slight decrease when compared to the current reporting period. This is likely due to a combination of incomplete surveying in the St Austell China Clay region and loss from a decline in habitat suitability as at Tregonning Hill.
6.15: Favourable Reference Population (FRP)	The FRP is the same as in 2018. The value is 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.
6.16: Change and reason for change in population size	The short term trend showing a large increase in population since 2013-2018 is likely due to increased recorder effort in 2022. The long term trend indicating a slight decrease in population is due to loss of the species from a site due to

	decrease in habitat suitability and possibly incomplete surveying in one area.
7.4: Short-term trend; Direction	Suitable habitat for the species has been declining at Lower Bostraze due to vegetation succession, and expert opinion is that declining china clay production at active clay pits sites is also likely to have reduced the area of suitable habitat.
8.1: Characterisation of pressures	Marsupella profunda occurs in disused and active china clay quarries, and is reliant on quarrying to produce fresh areas of substrate for colonisation. A cessation of this quarrying activity would pose a threat to the species, in particular due to the vulnerability of Marsupella to being out-competed by more vigorous taller vegetation.
9.1: Status of measures	Some conservation measures for Marsupella profunda have taken place, including the designation of SACs, however further measures are needed to conserve the species, in particular the maintenance and creation of bare china clay substrates suitable for colonisation, both within and outside the SAC areas.
9.5: List of main conservation measures	Marsupella profunda occurs in disused and active china clay quarries, and is reliant on quarrying to produce fresh areas of substrate for colonisation. Continuation of this quarrying activity is thus important to provide suitable habitat for the species.
10.1: Future trends and prospects of parameters	Future prospects for both range and population are dependent on the continuation of china clay quarrying and suitable management within SAC/SSSI sites. There are conservation enhancement schemes in place or starting for three sites, however, previous management of protected sites such as vegetation clearance has not maintained suitable habitat in the same way as quarrying.
11.5: Overall assessment of Conservation Status	As the current range is >10% below the favourable reference range, 'Unfavourable-bad' has been selected. However, as the population is 'Favourable', this suggests that the FRP value may be too low and/or the FRR value may be too high. There is limited data from previous reporting periods for comparison.

11.6: Overall trend in Conservation Status	Unknown' has been selected as although short term trends for both range and population appear to show an increase, this is likely due to increased surveying rather than reflecting genuine change. Due to limited past data, it is not known whether these trends are increasing, stable or declining.
12.1: Population size inside the pSCIs, SCIs and SACs network	Recorded from Lower Bostraze and Leswidden SSSI and Unit 3 of St Austell Clay Pits SAC
12.4: Short-term trend of the population size within the network; Direction	Although the number of 1x1 km squares with records from the current reporting period is 2 compared to 0 for the previous time period, this is likely due to lack of data in the previous recording period rather than an increase in population
12.6: Short-term trend of the habitat for the species within the network; Direction	Callaghan 2022 states that both remaining locations are under threat from vegetation succession as the quarrying process that created suitable habitat no longer occurs and attempts to maintain suitable habitat have been insufficient, leading to vegetation succession and habitat loss.