

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

**2019-2024**

Conservation status assessment for the species:

**S1395 - Petalwort**

***(Petalophyllum ralfsii)***

**England**



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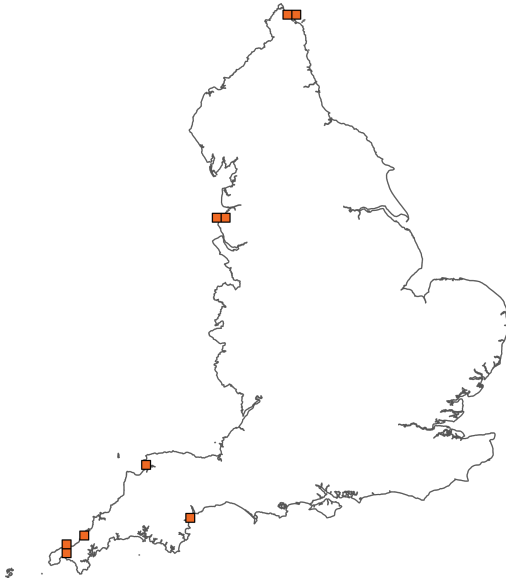
### **Important note - Please read**

- 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).

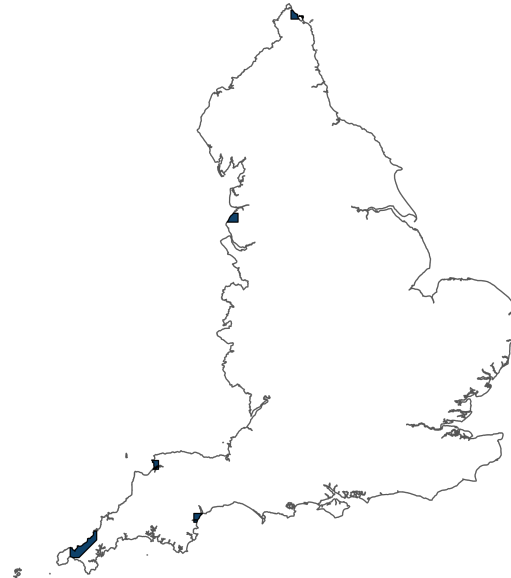
Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the [JNCC website](#).

## Assessment Summary: Petalwort

### Distribution Map



### Range Map



**Figure 1:** England distribution and range map for S1395 - Petalwort (*Petalophyllum ralfsii*). 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 S1395 - Petalwort (*Petalophyllum ralfsii*). 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)

**Unfavourable-bad (U2)**

**Habitat for the species** (see section 7)

**Unknown (XX)**

**Future prospects** (see section 10)

**Unknown (XX)**

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## National Level

### 1. General information

1.1 Country	England
1.2 Species code	S1395
1.3 Species scientific name	<i>Petalophyllum ralfsii</i>
1.4 Alternative species scientific name	
1.5 Common name	Petalwort
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

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

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

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

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**Other measures**

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**Other measures description**

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

#### **a) Unit**

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**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>b) Minimum</b>	-	-	-	-	-	-
<b>c) Maximum</b>	-	-	-	-	-	-
<b>d) Unknown</b>	-	-	-	-	-	-

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### **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 <sup>2</sup> )	575.02
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 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	

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

a) Area (km<sup>2</sup>)

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<b>b) Pre-defined increment</b>	Current range is between 11% and 50% smaller than the FRR
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<b>c) Unknown</b>	No
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<b>d) Method used</b>	Expert opinion
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e) Quality of information

### 5.11 Change and reason for change in surface area of range

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<b>a) Change</b>	No
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b) Genuine change

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c) Improved knowledge or more accurate data

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d) Different method

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e) No information

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f) Other reason

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g) Main reason

### 5.12 Additional information

No additional information

## 6. Population

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<b>6.1 Year or period</b>	2019-2024
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### 6.2 Population size (in reporting unit)

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<b>a) Unit</b>	number of localities
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b) Minimum

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c) Maximum

<b>d) Best single value</b>	6
<b>6.3 Type of estimate</b>	Minimum
<b>6.4 Quality of extrapolation to reporting unit</b>	
<b>6.5 Additional population size (using population unit other than reporting unit)</b>	
<b>a) Unit</b>	
<b>b) Minimum</b>	
<b>c) Maximum</b>	
<b>d) Best single value</b>	
<b>e) Type of estimate</b>	
<b>6.6 Population size; Method used</b>	Based mainly on extrapolation from a limited amount of data
<b>6.7 Short-term trend; Period</b>	2013-2024
<b>6.8 Short-term trend; Direction</b>	Stable
<b>6.9 Short-term trend; Magnitude</b>	
<b>a) Estimated minimum</b>	
<b>b) Estimated maximum</b>	
<b>c) Pre-defined range</b>	
<b>d) Unknown</b>	
<b>e) Type of estimate</b>	
<b>f) Rate of decrease</b>	
<b>6.10 Short-term trend; Method used</b>	Based mainly on extrapolation from a limited amount of data
<b>6.11 Long-term trend; Period</b>	2000-2024
<b>6.12 Long-term trend; Direction</b>	Decreasing
<b>6.13 Long-term trend; Magnitude</b>	

a) Minimum

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b) Maximum

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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

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aii) Unit

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**b) Pre-defined increment**      Current population is between 26% and 50% smaller than the FRP

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**c) Unknown**      No

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**d) Method used**      Expert opinion

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**e) Quality of information**

### **6.16 Change and reason for change in population size**

**a) Change**      No

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**b) Genuine change**

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**c) Improved knowledge or more accurate data**

---

**d) Different method**

---

**e) No information**

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**f) Other reason**

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**g) Main reason**

### **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 Stable

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)
PJ04: Sea-level rise due to climate change	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	Medium (M)
PA18: Agricultural activities generating air pollution	Ongoing and likely to be in the future	Medium (M)
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

No 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

Only inside 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)
MA11: Reduce/eliminate air pollution from agricultural activities	Medium (M)
MA10: Reduce/eliminate point or diffuse source pollution to surface or ground waters (including marine) from agricultural activities	Medium (M)

## 9.6 Additional information

No additional information

## 10. Future prospects

### 10.1a Future trends of parameters

<b>ai) Range</b>	Overall stable
<b>bi) Population</b>	Unknown
<b>ci) Habitat for the species</b>	Overall stable

### 10.1b Future prospects of parameters

<b>aii) Range</b>	Unknown
<b>bii) Population</b>	Unknown
<b>cii) Habitat for the species</b>	Unknown

## 10.2 Additional information

No additional information

## 11. Conclusions

**11.1 Range** Unfavourable-bad (U2)

**11.2 Population** Unfavourable-bad (U2)

**11.3 Habitat for the species** Unknown (XX)

**11.4 Future prospects** Unknown (XX)

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

**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

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 localities

**b) Minimum**

**c) Maximum**

**d) Best single value** 4

**12.2 Type of estimate** Minimum

<b>12.3 Population size inside the network; Method used</b>	Based mainly on extrapolation from a limited amount of data
<b>12.4 Short-term trend of population size within the network; Direction</b>	Stable
<b>12.5 Short-term trend of population size within the network; Method used</b>	Based mainly on extrapolation from a limited amount of data
<b>12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction</b>	Stable
<b>12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used</b>	Based mainly on extrapolation from a limited amount of data

### **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. 2012. Rare and scarce bryophytes in SW England. Ecostudy

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

Callaghan, D. 2024. Evidence of a recent large decline in *Petalophyllum ralfsii* in Northumberland. Bryophyte Surveys Ltd.

JNCC Article 17 Habitats Directive Report 2019. S1395 - Petalwort (*Petalophyllum ralfsii*). <https://jncc.gov.uk/jncc-assets/Art17/S1395-EN-Habitats-Directive-Art17-2019.pdf> (Accessed February 2025)

Natural England 2024. Report for wildlife licensing - translocation of Petalwort at Dawlish Warren. Unpublished

Pilkington, S. 2023. Petalwort *Petalophyllum ralfsii* monitoring at Dawlish Warren National Nature Reserve in 2023. Report to East Devon District Council

Stribley, M. J. 2018. Monitoring survey for Petalwort (*Petalophyllum ralfsii*) at selected sites in Devon and Cornwall 2017/2018. Report to Freshwater Habitats Trust

### Main pressures

#### 8.2 Sources of information

No sources of information

## 15. Explanatory Notes

Field label	Note
2.1: Sensitive species	The species 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	Surveys have been carried out either specifically for <i>Petalophyllum ralfsii</i> or including this species at most English sites since 2010; however, some areas have not been surveyed fully in the current reporting period (2019-2024)
5.1: Surface area	This figure has been calculated using data from 2010-2024, as used for mapping. This means that some records are from previous reporting periods.
5.3: Short-term trend; Direction	There is no range figure for England provided for the previous reporting period 2013-2018. There are records from both the previous and current reporting periods for most of the same localities (Holy Island, Sefton Coast, Braunton Burrows, Dawlish Warren and some of the Cornwall sites). There are no records from either for Ross Links & Bamburgh or Holme-next-the-sea. This suggests no significant change in range.
5.7: Long-term trend; Direction	The last records from both Ross Links & Bamburgh and Holme-next-the-sea are from 2008. Ross Links & Bamburgh was resurveyed in 2024 and previous habitat was no longer considered suitable due to vegetation succession. This suggests that there has been a decrease in range with possible loss from at least one locality, although viable diaspores may still be present.
5.10: Favourable Reference Range (FRR)	No favourable reference range was given in the report from 2013-2018. The Definition of Favourable Conservation Status for Petalwort in England states that favourable range

	is 10 localities, as the range has not exceeded this in the recent past.
5.11: Change and reason for change in surface area of range	There is no range figure for England provided for the previous reporting period 2013-2018. Based on the localities with records from 2013-2018 and 2019-2024, there does not appear to be any significant change in range.
6.2: Population size	Definition of localities following Definition of Favourable Conservation Status which specifies 10 localities for <i>Petalophyllum</i> in England. The six localities are Holy Island, Sefton Coast, Braunton Burrows, Dawlish Warren and two Cornwall sites.
6.3: Type of estimate	This figure is a minimum as although Ross Links & Bamburgh was surveyed for <i>Petalophyllum</i> in 2024, it is not known whether all the Cornwall sites or Holme-next-the-sea were surveyed in the current reporting period.
6.8: Short-term trend; Direction	Localities from 2013-2018 are 7, from 2019-2024 are 6 (no records from Penhale & Gear Sands). Previously this was measured in 1x1km squares, with 17 reported for 2013-2018. Number of 1x1km squares for 2019-2024 is 9. This decrease is mainly due to a lack of records for some of the sites in Cornwall and is likely to be an underestimate.
6.12: Long-term trend; Direction	Out of the 10 localities in England, two have had no records since 2008 (Ross Links & Bamburgh and Holme-next-the-sea). Ross Links & Bamburgh was resurveyed in 2024 and previous habitat was no longer considered suitable due to vegetation succession. This suggests that there has been a decrease in population with possible loss from at least one locality, although viable diaspores may still be present.
6.15: Favourable Reference Population (FRP)	No favourable reference population was given in the report from 2013-2018. The Definition of Favourable Conservation Status for <i>Petalwort</i> in England states that favourable population means a sustainable population in each of the 10 locations, estimated as >1000 thalli. However, this will vary between localities and fluctuate between years.

6.16: Change and reason for change in population size	Based on the localities with records from 2013-2018 and 2019-2024, there does not appear to be any significant change in population. Short-term trend is likely to be stable while long-term trend is decreasing with possible loss of the species from at least one locality due to vegetation succession (Ross Links & Bamburgh, last records 2008 and not found during surveys in 2024)
7.1: Sufficiency of area and quality of occupied habitat	It is difficult to make an overall assessment of the quality of occupied habitat for Petalwort as this varies between sites, although declining area of suitable habitat has been reported at several sites due to vegetation succession
7.4: Short-term trend; Direction	Loss of suitable habitat due to vegetation succession at some sites is not a new issue and was also present during the last reporting period, particularly with the Northumbria sites and Sefton Coast. It is considered that comparison with the last reporting period shows a stable trend: although there has been loss of early successional dune slacks, populations are persisting on edges of tracks and other areas with some disturbance
8.1: Characterisation of pressures	A decline in early successional dune slack habitat due to vegetation succession is the main pressure at most sites. Recent records are often along the edges of tracks within dune systems rather than within dune slack hollows, as tracks can help to maintain some open areas through disturbance. Sea-level currently relates mainly to Dawlish Warren; in 2024, a translocation project was undertaken to relocate part of the Petalophyllum population as a precaution against loss from tidal flooding from coastal storm surges. This may be relevant to other sites in the future.
10.1: Future trends and prospects of parameters	Although there does not appear to have been any significant deterioration in range, population or habitat since the last reporting period, Petalwort is a very small and low-growing species that is vulnerable to a range of threats, in particular being out-competed by coarser vegetation. Its future prospects are thus considered to be uncertain.

11.5: Overall assessment of Conservation Status	The overall assessment is 'Unfavourable-bad' as although short-term trends in range, population and habitat appear to be stable, possible loss from 2 out of 10 localities means the range and population are significantly below the targets given in the Definition of Favourable Conservation Status.
11.6: Overall trend in Conservation Status	Short term trends for range, population and habitat are considered to be stable, with no significant changes since the last reporting period.
12.1: Population size inside the pSCIs, SCIs and SACs network	Number of localities with records for 2019-2024 within the NSN is 4 (Braunton Burrows, Dawlish Warren, Holy Island, Sefton Coast). Definition of localities following Definition of Favourable Conservation Status which specifies 10 localities for Petalophyllum in England
12.4: Short-term trend of the population size within the network; Direction	Localities from 2013-2018 within the NSN are 5 while for 2019-2024 this is 4 (no records from Penhale & Gear Sands). Previously this was measured in 1x1km squares, with records for 10 for 2013-2018. Number of 1x1km squares for 2019-2024 is 7. This decrease is mainly due to a lack of records for Penhale & Gear Sands and is likely to be an underestimate.
12.6: Short-term trend of the habitat for the species within the network; Direction	Available suitable habitat within the network has decreased at some sites mainly due to vegetation succession; however, these issues are not new and were present during the previous reporting period 2013-2018. Short-term trend is likely to be stable while long-term trend is decreasing with possible loss of the species from at least one locality due to vegetation succession (Ross Links & Bamburgh, last records 2008 and not found during surveys in 2024)