

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

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

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

Supporting documentation for the
conservation status assessment for the habitat:

**H7220 - Petrifying springs with tufa formation
(*Cratoneurion*)**

SCOTLAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this habitat, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this habitat is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

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

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	UK (Scotland information only)
1.2 Habitat code	7220 - Petrifying springs with tufa formation (Cratoneurion)

2. Maps

2.1 Year or period	1976-2007
2.3 Distribution map	Yes
2.3 Distribution map Method used	Complete survey or a statistically robust estimate
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	Atlantic (ATL)
3.2 Sources of information	References within - http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H7220_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2493763. Spring-head, rill and flush (upland) feature type (JNCC, (2009), Common Standards Monitoring Guidance for Upland Habitats, Version July 2009 and previous versions) http://jncc.defra.gov.uk/page-2237

4. Range

4.1 Surface area (in km ²)	
4.2 Short-term trend Period	
4.3 Short-term trend Direction	Stable (0)
4.4 Short-term trend Magnitude	a) Minimum b) Maximum
4.5 Short-term trend Method used	
4.6 Long-term trend Period	
4.7 Long-term trend Direction	
4.8 Long-term trend Magnitude	a) Minimum b) Maximum
4.9 Long-term trend Method used	
4.10 Favourable reference range	a) Area (km ²) b) Operator c) Unknown No d) Method
4.11 Change and reason for change in surface area of range	Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data
4.12 Additional information	NB Range entries and comments are made on the basis of Distribution maps and assumptions as to how these will affect previous range maps, without having seen new range maps. 1) Newly collated vegetation map information (HabMoS) has identified occurrences of this habitat which did not appear in previous Article 17 reporting distribution maps. Some of the new occurrences are outwith the currently-mapped range and will increase the surface area of the range significantly, both around the edges and by filling in gaps. The location of these

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

occurrences is credible, as is a sample of the examples checked. NB only a cursory examination of additional occurrences has been possible, and while they appear credible, change in range must be regarded as tentative pending more full verification. 2) For the previously-reported occurrences of the habitat, there is no evidence of any actual change in range in Scotland in the period 2006-2017. Within this period, persistence of the habitat has been confirmed in all the upland designated sites where it is a notified feature that have been checked (SCM database, extract A2298772).

5. Area covered by habitat

5.1 Year or period	2007-2017		
5.2 Surface area (in km ²)	a) Minimum 0.46	b) Maximum 0.57	c) Best single value 0.57
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data		
5.5 Short-term trend Period	2007-2017		
5.6 Short-term trend Direction	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data		
5.9 Long-term trend Period			
5.10 Long-term trend Direction			
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used			
5.13 Favourable reference area	a) Area (km ²) b) Operator c) Unknown No d) Method		
5.14 Change and reason for change in surface area of range	Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data		
5.15 Additional information	Conclusions are based on absence of evidence of change in extent in Scotland in the period. Within this period, no losses of extent have been recorded on sites where it is a notified feature (SCM database, extract A2298772). However, small losses of extent due to herbivore trampling were previously recorded within a designated site. The maximum area of habitat has been increased to reflect improved knowledge (rather than actual expansion of the habitat) and it remains likely that there are further as yet unmapped examples.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km ²) Minimum 0.04509 Maximum 0.0548 b) Area in not-good condition (km ²) Minimum 0.3698 Maximum 0.44942 c) Area where condition is not known (km ²) Minimum 0.04509 Maximum 0.06576
6.2 Condition of habitat Method used	Complete survey or a statistically robust estimate

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

6.3 Short-term trend of habitat area in good condition Period	2001-2015
6.4 Short-term trend of habitat area in good condition Direction	Increasing (+)
6.5 Short-term trend of habitat area in good condition Method used	Complete survey or a statistically robust estimate
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period? No
6.7 Typical species Method used	
6.8 Additional information	<p>Site Condition Monitoring provides a means of assessing the structure and function of H7220 in Scotland. Assessment is based on the results of assessments carried out between 2001 and 2015. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H7220 on SACs considered to be in Favourable condition remained at 10% between 2012 (based on assessments carried out between 2002 and 2008) and 2015. All of the Unfavourable H7220 is assessed as recovering, as against 2% of the total habitat extent in 2012. (It should be noted that almost 90% of the extent of this habitat occurs on a single site, which therefore has an overwhelming influence on the assessments for the habitat as a whole). Two SSSI features are considered to be Favourable and two Unfavourable, but extent data is not available. Overall, Oha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 41ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 0ha and 1ha respectively for 2012. Although the proportion in Favourable condition has remained low and stable, given that all the remaining extent of the habitat is assessed as recovering, overall condition is judged to be improving.</p>

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Management of fishing stocks and game (G08)	H
Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Management of fishing stocks and game (G08)	H

7.2 Sources of information

7.3 Additional information	Trampling and grazing by sheep Deer grazing and trampling
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8. Conservation measures

8.1 Status of measures	<p>a) Are measures needed? Yes</p> <p>b) Indicate the status of measures Measures identified and taken</p>
8.2 Main purpose of the measures taken	Restore the habitat of the species (related to 'Habitat for the species')
8.3 Location of the measures taken	Only inside Natura 2000

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

8.4 Response to the measures

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

8.5 List of main conservation measures

Adapt mowing, grazing and other equivalent agricultural activities (CA05)

Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)

8.6 Additional information

Conservation measures are generally implemented through designation of protected areas, voluntary and statutory procedures (Deer Act), agri-environment schemes (SRDP). While some results are achievable in the short term, some attributes will recover only over longer timescales.

9. Future prospects

9.1 Future prospects of parameters

- a) Range
- b) Area
- c) Structure and functions

9.2 Additional information

Range is considered likely to remain stable. Area is considered likely to remain stable. Features Favourable for Structure and function should continue to be so, and the remaining extent is all assessed as recovering. This is important improvement.

10. Conclusions

10.1. Range

10.2. Area

10.3. Specific structure and functions (incl. typical species)

10.4. Future prospects

10.5 Overall assessment of Conservation Status

10.6 Overall trend in Conservation Status

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

- a) Overall assessment of conservation status

No change

The change is mainly due to:

- b) Overall trend in conservation status

No change

The change is mainly due to:

10.8 Additional information

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/marine region)

- a) Minimum
- b) Maximum
- c) Best single value 0.46

11.2 Type of estimate

Best estimate

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

11.3 Surface area of the habitat type inside the network Method used

Based mainly on extrapolation from a limited amount of data

11.4 Short-term trend of habitat area in good condition within the network Direction

Increasing (+)

11.5 Short-term trend of habitat area in good condition within network Method used

Complete survey or a statistically robust estimate

11.6 Additional information

Site Condition Monitoring provides a means of assessing the structure and function of H7220 on SACs in Scotland. Assessment is based on the results of assessments carried out between 2001 and 2015. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H7220 on SACs considered to be in Favourable condition remained at 10% between 2012 (based on assessments carried out between 2002 and 2008) and 2015. All of the Unfavourable H7220 is assessed as recovering, as against 2% of the total habitat extent in 2012. (It should be noted that almost 90% of the extent of this habitat occurs on a single site, which therefore has an overwhelming influence on the assessments for the habitat as a whole). Overall, Oha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 41ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 0ha and 1ha respectively for 2012. Although the proportion in Favourable condition has remained low and stable, given that all the remaining extent of the habitat is assessed as recovering, overall condition is judged to be improving.

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

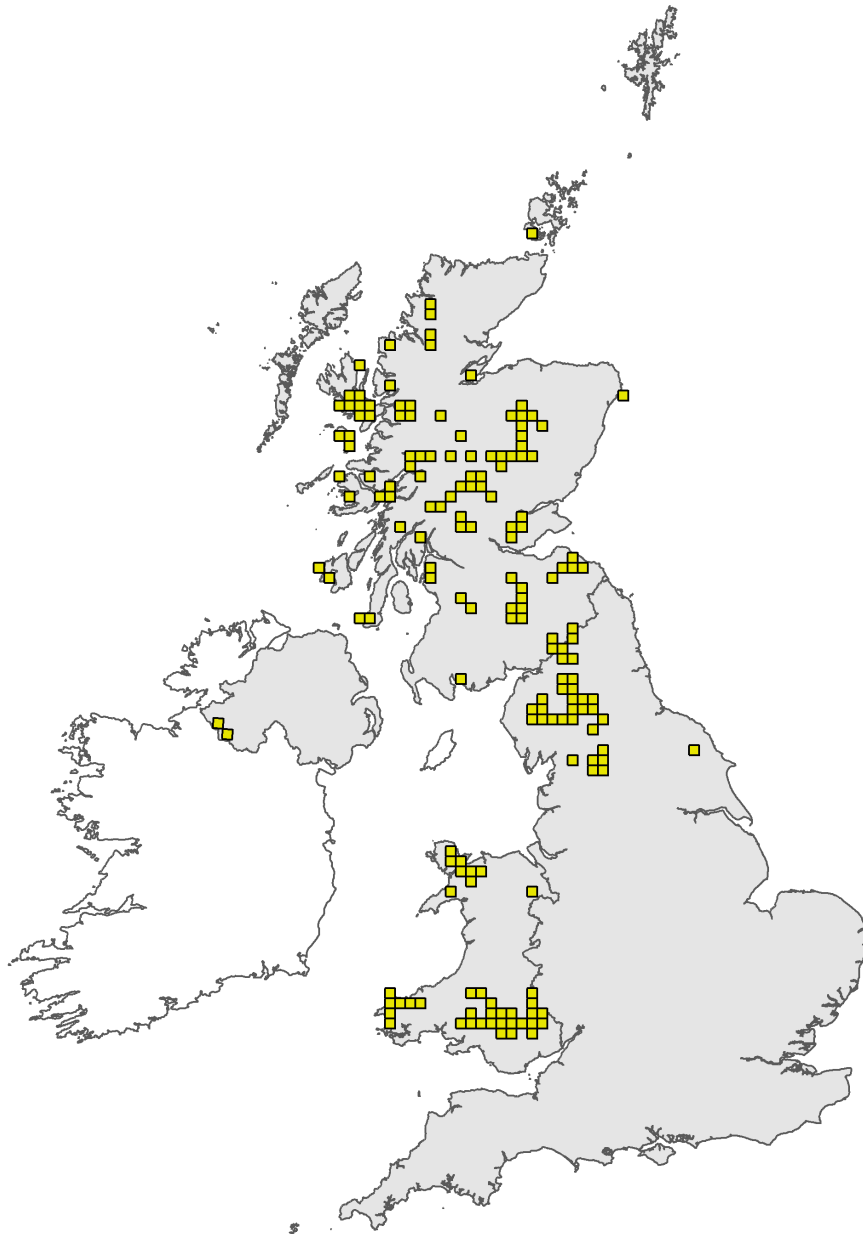


Figure 1: UK distribution map for H7220 - Petrifying springs with tufa formation (*Cratoneurion*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

Range Map

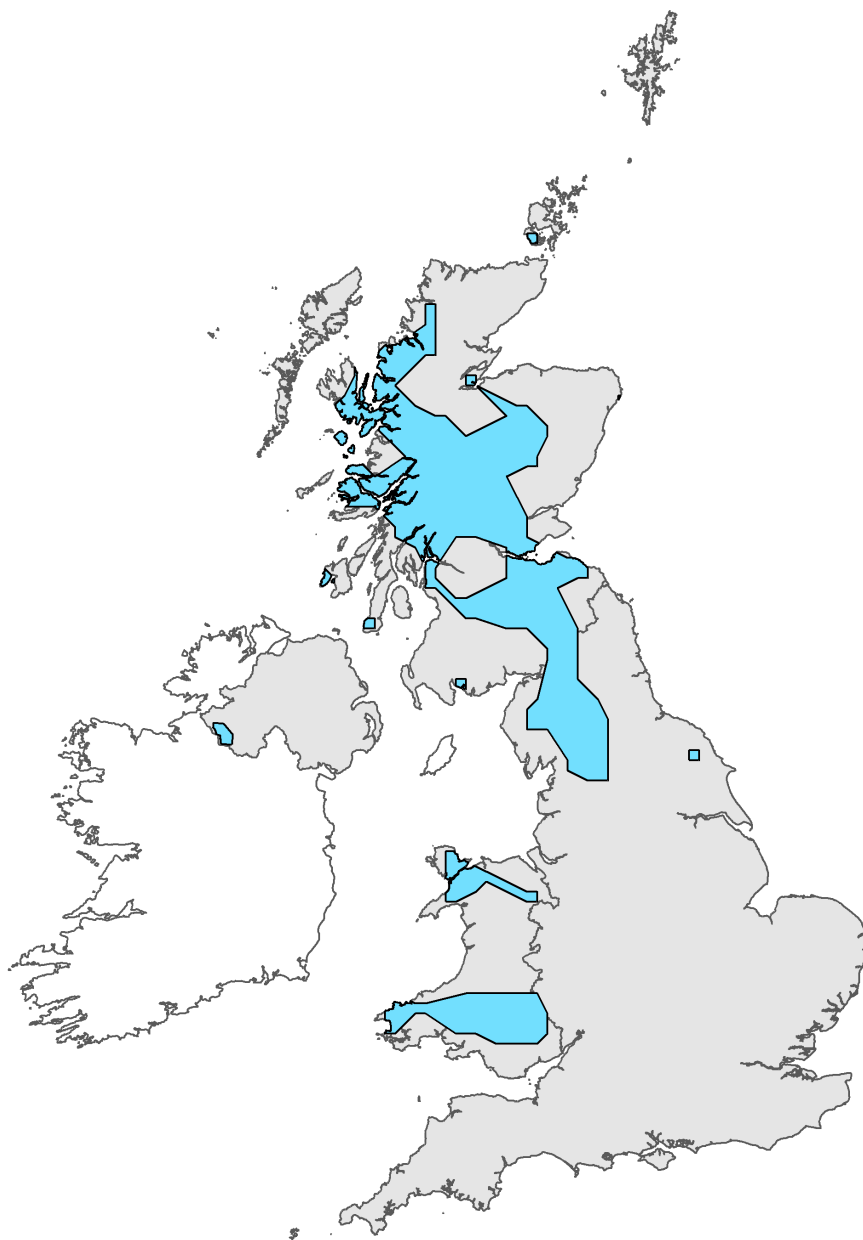


Figure 2: UK range map for H7220 - Petrifying springs with tufa formation (*Cratoneurion*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this habitat was 25km. For further details see the 2019 Article 17 UK Approach document.