

**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 species:

S1654 - Early gentian (*Gentianella anglica*)

ENGLAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this species, 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 species 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; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).
- For technical reasons, the country-level future trends for Range, Population and Habitat for the species 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 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

1.1 Member State	UK (England information only)
1.2 Species code	1654
1.3 Species scientific name	Gentianella anglica
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Early gentian

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2013-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
2.5 Additional maps	No

3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No																
3.2 Which of the measures in Art. 14 have been taken?	<table> <tr> <td>a) regulations regarding access to property</td><td>No</td></tr> <tr> <td>b) temporary or local prohibition of the taking of specimens in the wild and exploitation</td><td>No</td></tr> <tr> <td>c) regulation of the periods and/or methods of taking specimens</td><td>No</td></tr> <tr> <td>d) application of hunting and fishing rules which take account of the conservation of such populations</td><td>No</td></tr> <tr> <td>e) establishment of a system of licences for taking specimens or of quotas</td><td>No</td></tr> <tr> <td>f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens</td><td>No</td></tr> <tr> <td>g) breeding in captivity of animal species as well as artificial propagation of plant species</td><td>No</td></tr> <tr> <td>h) other measures</td><td>No</td></tr> </table>	a) regulations regarding access to property	No	b) temporary or local prohibition of 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	h) other measures	No
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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

4.2 Sources of information

PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford: Oxford University Press.

WILSON, P. J. & PRICE, D. 2017. Early Gentian (*Gentianella anglica*) - Sample Survey of Sites in England - 2017. Unpublished report for Natural England, Species Recovery Trust.

PLANTLIFE 2006. Back from the Brink Species Briefing Sheet Early Gentian *Gentianella anglica*. Plantlife
https://www.plantlife.org.uk/application/files/6414/7913/4066/Brief20sheet20-20Early20gentian20Gentianella_briefing_sheet.pdf

WILSON, P. J. 2009. A Sample Survey of Sites for *Gentianella anglica* in England in 2008. Unpublished report for Natural England.

Online Atlas of the British and Irish Flora, *Gentianella anlica*, (Early Gentian).
[Http://www.brc.ac.uk/plantatlas/index.php?q=node/1585](http://www.brc.ac.uk/plantatlas/index.php?q=node/1585)

STEWART, A., PEARMAN, D.A. & PRESTON, C.D. 1994. Scarce Plants in Britain. Peterborough: Joint Nature Conservation Committee

WILSON, P. J. 1999 The distribution and status of *Gentianella anglica* (Pugsley) E. Warb. English Nature Species Recovery Programme/ Plantlife (Back from the Brink Project) Report No. 119

WILSON, P.J. 2000. Early gentian *Gentianella anglica* (Pugsley) E. Warb.: survey and monitoring work in 1999. English Nature Species Recovery Programme/ Plantlife Report, No. 147

WINFIELD, M. & PARKER, J. 2000. A molecular analysis of *Gentianella* in Britain. English Nature Species Recovery Programme/ Plantlife Report, No. 155

WILKINS, T. 2011. *Gentianella anglica*. The IUCN Red List of Threatened Species 2011: e.T162380A5582326. <http://dx.doi.org/10.2305/IUCN.UK.2011->

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2.RLTS.T162380A5582326.en. Downloaded on 22 August 2018.
 STROH, P.A., LEACH, S.J., AUGUST, T.A., WALKER, K.J., PEARMAN, D.A., RUMSEY, F.J., HARROWER, C.A., FAY, M.F., MARTIN, J.P., PANKHURST, T., PRESTON, C.D. & TAYLOR, I. 2014. A Vascular Plant Red List for England. Botanical Society of Britain and Ireland, Bristol.
 BSBI Distribution Database (accessed July 2018)

5. Range

5.1 Surface area (km ²)	
5.2 Short-term trend Period	
5.3 Short-term trend Direction	Stable (0)
5.4 Short-term trend Magnitude	a) Minimum b) Maximum
5.5 Short-term trend Method used	
5.6 Long-term trend Period	
5.7 Long-term trend Direction	
5.8 Long-term trend Magnitude	a) Minimum b) Maximum
5.9 Long-term trend Method used	
5.10 Favourable reference range	a) Area (km ²) b) Operator c) Unknown d) Method
5.11 Change and reason for change in surface area of range	No change The change is mainly due to:
5.12 Additional information	

6. Population

6.1 Year or period	2013-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 75
6.3 Type of estimate	Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit number of localities (localities) b) Minimum c) Maximum d) Best single value 70
6.5 Type of estimate	Minimum
6.6 Population size Method used	Based mainly on extrapolation from a limited amount of data
6.7 Short-term trend Period	2007-2018

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6.8 Short-term trend Direction	Decreasing (-)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data
6.11 Long-term trend Period	1994-2017
6.12 Long-term trend Direction	Decreasing (-)
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	Based mainly on extrapolation from a limited amount of data
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size 154 with unit number of localities (localities) b) Operator c) Unknown d) Method
6.16 Change and reason for change in population size	Genuine change The change is mainly due to: Genuine change
6.17 Additional information	

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)? No b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)? No
7.2 Sufficiency of area and quality of occupied habitat Method used	Based mainly on expert opinion with very limited data
7.3 Short-term trend Period	2007-2018
7.4 Short-term trend Direction	Uncertain (u)
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	

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H

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Extensive grazing or undergrazing by livestock (A10)	H
Application of synthetic (mineral) fertilisers on agricultural land (A20)	M
Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Extensive grazing or undergrazing by livestock (A10)	H
Application of synthetic (mineral) fertilisers on agricultural land (A20)	H

8.2 Sources of information

8.3 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

Both inside and outside Natura 2000

9.4 Response to the measures

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

9.5 List of main conservation measures

Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)

Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

- a) Range
- b) Population
- c) Habitat of the species

10.2 Additional information

11. Conclusions

11.1. Range

11.2. Population

11.3. Habitat for the species

11.4. Future prospects

11.5 Overall assessment of Conservation Status

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11.6 Overall trend in Conservation Status

11.7 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:

11.8 Additional information

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- a) Unit number of map 1x1 km grid cells (grids1x1)
- b) Minimum
- c) Maximum
- d) Best single value 34

12.2 Type of estimate

Minimum

12.3 Population size inside the network Method used

Based mainly on extrapolation from a limited amount of data

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

Stable (0)

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 Additional information

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Distribution Map



Figure 1: UK distribution map for S1654 - Early gentian (*Gentianella anglica*). 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. For further details see the 2019 Article 17 UK Approach document.

Range Map



Figure 2: UK range map for S1654 - Early gentian (*Gentianella anglica*). 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 species was 20km. For further details see the 2019 Article 17 UK Approach document.

Explanatory Notes

Species name: *Gentianella anglica* (1654)

Field label	Note
2.4 Distribution map; Method used	Survey for this species in 2017 visited 22 of the sites also surveyed in 2009 (from the total of 115 known localities in Britain) and chosen to reflect the full ecological range of the distribution of Early Gentian. The sites included six in Dorset, seven in Wiltshire, four on the Isle of Wight, and one each in Devon, Somerset, Oxfordshire, Buckinghamshire and Lincolnshire. Otherwise there has been much general botanical survey effort in the reporting period (for the next Atlas due to be completed in 2020) so results are considered at least representative. The BSBI database does not show any Cornish records, which would result in a significant range contraction. The species is still present in Cornwall and Cornish records have been supplied by the BSBI recorder (I. Bennallick pers. comm.).

Species name: *Gentianella anglica* (1654) Region code: ATL

Field label	Note
4.2 Sources of information	Placed on the Waiting List on the England Red List of Vascular Plants (Stroh et al. 2014) due to lack of agreement on its taxonomic position (whether best treated as full species or whether it should be of lower taxonomic rank) - it appears to be genetically similar to <i>G. amarella</i> , but flowers early and is morphologically distinct so can be reliably identified in the field. Although we do not currently hold accurate data on the loss of suitable grassland, there is a body of evidence to suggest gradual deterioration of unimproved grassland. Although this cannot be quantified using existing data, observations suggest that habitat has declined in both area and quality. Populations have also been lost due to habitat fragmentation. For instance, Stewart et al. (1994) states: 'Most fragments of surviving grasslands are unsuitable as the cessation of traditional grazing regimes has allowed rank grassland and scrub to replace the closely grazed swards required by this species. Populations within Sites of Special Scientific Interest (SSSIs) and nature reserves are still threatened because of the practical difficulties of grazing grassland fragments, cliff edges and coastal slopes. There is also a difficulty within fragmented sites in balancing the requirements of this species with other species worthy of conservation.'
5.11 Change and reason for change in surface area of range	The mapped distribution appears rather stable in much of the core English range of this species, and outlying sites in Cornwall and Devon still have populations. The repeat survey (Wilson & Price, 2017) was of a sample of 22 sites (out of a total of 140 listed in Appendix 1 of Wilson (1999), which included all sites from which <i>Gentianella anglica</i> had been recorded between 1994 and 1998). It gave a mixed picture with some grounds for concern (8 of the sites considered to be in unfavourable condition in terms of vegetation structure in 2017 compared with 6 in 2008) as well as some positive change (13 of the sites considered to be in ideal condition in terms of vegetation structure in 2017 compared with 9 in 2008). The overall number of plants found was much lower in 2017 but could be accounted for by the large annual fluctuations typical of the species. Overall the conclusion that the range has remained stable appears reasonable, but gradual losses of sites which are in unfavourable condition could well erode this picture in the medium term.
6.2 Population size	Records in the period come from at least 75 monads (1x1km squares). The data is from BSBI Database supplemented by the 2017 survey (Wilson & Price, 2017) and Cornish records direct from the county recorder (I Bennallick, pers. comm.). Survey was not comprehensive so it is a minimum figure.

6.4 Additional population size	Localities has been used as an alternative population measure as it was used in previous rounds allowing a more meaningful comparison, although the lack of comprehensive coverage means there is uncertainty around the conclusions. For this species, localities have been defined as sites bearing different names, without subsites. Therefore, for instance, 'Braunton Burrows' is counted as a single locality, despite there being separate populations (and possibly subsites) within it. Population sizes vary from year to year, fluctuating from one or two individuals to many tens of thousands (within its core areas of Dorset, Isle of Wight and south Wiltshire). This fluctuation makes the use of a proxy measure of population essential. The number of localities and monads are very similar to one another. Monads would be the easier unit to use in future in terms of ease of definition, at least.
6.8 Short term trend; Direction	The apparent decrease in population must in part be an artefact of recording effort as not all sites have been visited. But small and fragmented sites continue to be at high risk, and are occasionally lost, hence it is reasonable to report that the current trend is also decreasing, although the amplitude is unknown. Many localities have historically been lost as a result of quarrying or through the ploughing up or fertilising of chalk grassland for agriculture or by the invasion of coarse grasses or scrub, but this kind of threat to unimproved calcareous grassland should be lower now thanks to improved protection. In more recent times decline in habitat quality has had a more significant impact on populations (Plantlife Species Briefing Sheet, 2006).
6.8 Short term trend; Direction	The reported number of localities (70+) represents a significant decline below the Favourable Reference Value (154 localities for GB but most of them in England in 2005). This is in part due to the lack of a comprehensive survey of all sites. The repeat survey (Wilson & Price, 2017) was of a sample of 22 sites (out of a total of 140 listed in Appendix 1 of Wilson (1999), which included all sites from which the species had been recorded between 1994 and 1998). The 2017 survey produced a mixed picture with some grounds for concern (8 of the sites considered to be in unfavourable condition in terms of vegetation structure in 2017 compared with 6 in 2008) as well as some positive change (13 of the sites considered to be in ideal condition in terms of vegetation structure in 2017 compared with 9 in 2008). The overall number of plants found was much lower in 2017 but could be accounted for by the large annual fluctuations typical of the species. As noted in previous rounds, small and fragmented sites continue to be at high risk, and are occasionally lost, hence it is reasonable to report that the current trend is also decreasing, although the amplitude is unknown. Many localities have been lost as a result of quarrying or through the ploughing up or fertilising of chalk grassland for agriculture or by the invasion of coarse grasses or scrub. In more recent times decline in habitat quality has also had a significant impact on populations (Plantlife Species Briefing Sheet, 2006).
6.16 Change and reason for change in population size	See under 6.8
7.1 Sufficiency of area and quality of occupied habitat	Assuming the decline in population to be real due to continued slow loss of sites and the FRV to be equivalent to the range in the first reporting round then it is reasonable to assume that either habitat quality or quantity is insufficient to maintain a favourable population of the species.
7.2 Sufficiency of area and quality of occupied habitat; Method used	Assumptions based on the apparent continued gradual loss of sites (especially small sites) and widely reported problems in maintaining short species-rich calcareous grassland in good condition.

7.4 Short term trend; Direction	The repeat survey (Wilson & Price, 2017) was of a sample of 22 sites (out of a total of 140 listed in Appendix 1 of Wilson (1999), which included all sites from which <i>Gentianella anglica</i> had been recorded between 1994 and 1998). In terms of habitat, it gave a mixed picture, with some grounds for concern (8 of the sites considered to be in unfavourable condition in terms of vegetation structure in 2017 compared with 6 in 2008) as well as some positive change (13 of the sites considered to be in ideal condition in terms of vegetation structure in 2017 compared with 9 in 2008).
8.1 Characterisation of pressures/ threats	Main threats considered to be abandonment of grazing, undergrazing or agricultural 'improvement', e.g. Stewart et al., A., (1994), Plantlife briefing sheet (2006).
9.1 Status of measures	Measures include designation of SACs (Natura 2000 sites) - 35 or 70 localities where reported in 2013-2018 were within Natura 2000 sites. Also SSSI designation and targeting of agri-environment scheme money at species-rich calcareous grassland sites that hold this species.
10.1 Future prospects of parameters	Likely to be unfavourable due to continued slow decline and loss of sites, despite conservation effort.
12.1 Population size inside the pSCIs, SCIs and SACs network	Records come from 34 1km squares within Natura 2000 sites. Limited data (e.g. Wilson, 2017) suggests these sites have fared better than the wider countryside and populations here are thought likely to be stable.