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

Supporting documentation for the Third Report by the United Kingdom under Article 17

on the implementation of the Directive
from January 2007 to December 2012
Conservation status assessment for

Species:

S1654 - Early gentian (*Gentianella anglica*)

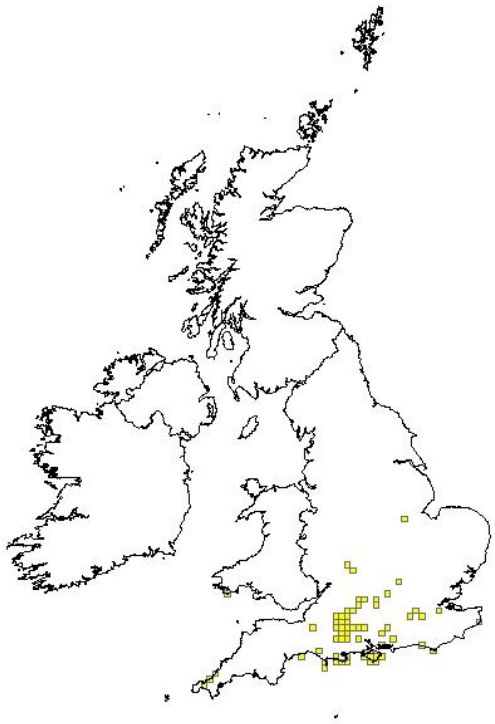
IMPORTANT NOTE – PLEASE READ

- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers only to the state of the habitat/species in **England** - it does not constitute an assessment for the whole of the UK.
- The Article 17 UK Approach document provides details on how this information has been used and, combined with information supplied by other Statutory Nature Conservation Bodies
- The format of the document is closely aligned to that set out by the European Commission for Member State reporting – as a result, some of the fields are not applicable at a country-level and have deliberately been left blank – in addition, the content of most fields is constrained by the EC reporting categories.

Reporting format on the 'main results of the surveillance under Article 11' for Annex II, IV & V species

Field name	*Brief explanations*	
0.2 Species	**0.2.1 Species code**	**S1654**
	0.2.2 Species scientific name	***Gentianella anglica***
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	**Early Gentian**

1.1 Maps			
1.1.1 Distribution map		**Sensitive**	**False**



1.1.2 Method used - map	**Estimate based on partial data with some extrapolation and/or modelling**
	The data for a widespread species such as this is inevitably incomplete (see further discussion under 1.1.3)
1.1.3 Year or period	**2000-2012**
	This species is relatively widespread, and has been recorded in a total of 122 hectads in England, but only 58 since 2000 and only 41 in the reporting period 2007-2012. The figure of 41 hectads is considered to only be a moderate representation of the current true range as not all localities will have been surveyed at the right time of year during this

	period. Including additional records post 2000 gives what is more likely to be a good representation of the range. It is of course possible that losses might have occurred on some of the sites. This is balanced, though by an unknown degree, by the post 2000 dataset also being likely to be somewhat incomplete.
1.1.4 Additional distribution map	**False**
1.1.5 Range map	

2.1 Biogeographical region & marine regions	**ATL**
2.2 Published sources	**"BSBI mapping scheme hectad map. Http://www.bsbimaps.org.uk/atlas/map_page.php?spid=899.0** **Online Atlas of the British and Irish Flora, Gentianella anlica, (Early Gentian). Http://www.brc.ac.uk/plantatlas/index.php?q=node/1585** **PLANTLIFE 2006. Back from the Brink Species Briefing Sheet Early Gentian Gentianella anglica. Plantlife http://www.plantlife.org.uk/uploads/documents/Brief%20sheet%20-%20Early%20gentian%20Gentianella_briefing_sheet.pdf** **PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press.** **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"**

2.3 Range	
2.3.1 Surface area Range	
	This species (as currently described) is endemic to the UK, and is known in 17 English counties (and one Welsh county). The main strongholds are the Isle of Wight, Wiltshire and Dorset, where it is locally plentiful (Preston et al., 2002)
2.3.2 Method used Surface area of Range	**Estimate based on partial data with some extrapolation and/or modelling**
	This species is relatively widespread, and has been recorded in a total of 122 hectads in England, but only 58 since 2000 and only 41 in the reporting period 2007-2012. The figure of 41 hectads is considered to only be a moderate representation of the current true range as not all localities will have been surveyed at the right time of year during this period. Including the additional records post 2000 is more likely to give a good representation of the range, although it is possible that some losses might have occurred on some of the sites. This is balanced, though by an unknown degree, by the post 2000 dataset also being likely to be incomplete.
2.3.3 Short-term trend Period	**2001-2012**
2.3.4 Short term trend Trend direction	**stable**
	From 1970, the range has been more or less stable (Stewart et al., 1994). The core range of this species has undergone little change, although quality of habitat within this range may have declined. Population outliers have declined, particularly in East Anglia, Northamptonshire, Surrey, Kent and Bedfordshire. Some of these had declined/were lost several decades ago, others more recently.
2.3.5 Short-term trend Magnitude	**a) Minimum**
	b) Maximum
2.3.6 Long-term trend Period	**1989-2012**
2.3.7 Long-term trend Trend direction	**stable**
	From 1970, the range has been more or less stable (Stewart et al., 1994). The core range of this species has undergone little change, although quality of habitat within this range may have declined. Population outliers have declined, particularly in East Anglia, Northamptonshire, Surrey, Kent and Bedfordshire. Some of these had declined/were lost several decades ago, others more recently. The most recent available comparison of range is in Stewart et al. (1994), which contains a map of the range recorded in 1970-1992. The current range estimate (1987-1999) includes the time at which the Directive came into force, it is not possible to provide trend information from 1994 to the present, however there is no reason to believe that the trend since 1970 has changed. Therefore, a conclusion of stable is

	believed to represent the current trend.	
2.3.8 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
2.3.9 Favourable reference range	**a) Value in km²**	**12342**
	The current trend is stable, and the range is not especially restricted, therefore the range as in 1994 (measured as 1987-1999) was set as the favourable reference range in the 2007 reporting round. The same figure is used here.	
	b) Operator for FRR	
	c) FRR is unknown (indicated by "true")	**False**
	d) Method used to set FRR	
2.3.10 Reason for change Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to…	**a) Genuine change?**	**False**
	b) Improved knowledge/more accurate data?	**False**
	c) Use of different method (e.g. "Range tool")?	**False**

2.4 Population		
2.4.1 Population size estimation (using individuals or agreed exceptions where possible)	**a) Unit**	
	b) Minimum	
	Using the same definition of localities as in the previous reporting round	

	requires use of data from the BSBI database, which uses locality names (NBN data does not). Records come from a minimum of 81 localities in the period 2000-2012, compared with 154 during 1993-2005 (which probably represents a more complete dataset).	
	c) Maximum	
2.4.2 Population size estimation (using population unit other than individuals) Optional *(if 2.4.1 filled in)*	**a) Unit**	**number of localities**
	b) Minimum	**81**
	c) Maximum	**81**
2.4.3 Additional information on population estimates / conversion Optional	**a) Definition of "locality"**	**Localities have been defined as sites bearing different names, without subsites (as used for the 2007 reporting round).**
	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). This fluctuation makes the use of a proxy measure of population essential.	
	b) Method to convert data	
	c) Problems encountered to provide population size estimation	**NBN database does not give site names so the BSBI big database has had to be used, which is less complete.**
2.4.4 Year or period	**2000-2012**	
	2000-2012 is chosen as this has been used to calculate range information and is considered more representative of current distribution than the incomplete data for 2007-2012.	
2.4.5 Method used Population size	**Estimate based on partial data with some extrapolation and/or modelling**	
	The previous reporting round was based on a complete inventory.	
2.4.6 Short-term trend Period	**2001-2012**	
2.4.7 Short-term trend Trend direction	**decrease**	
	Based on the monitoring of a sample of sites, numbers of individuals in populations appeared to have suffered a recent decline prior to the last reoprting round (Wilson, 1999). He recorded it from 154 localities in 2003-1995 but post 2000 records come from only 81 localities. However, the post 2000 records are not complete, to an unknown degree, so the magnitude of the decline is unknown though it will probably be much smaller than might be suggested by these fugures.	
2.4.8 Short-term trend Magnitude		

	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend Method used	**Estimate based on partial data with some extrapolation and/or modelling**	
2.4.10 Long-term trend – Period	**1989-2012**	
2.4.11 Long-term trend Trend direction	**decrease**	
	38 sites were listed in Wilson (1999) for which records exist between 1970 and 1992, but not since (this gives a decline of 20% over the period). 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. Localities have been lost as a result of quarrying or through the ploughing up or fertilising of chalk grassland for agriculture or by lack of grazing leading to the invasion of coarse grasses or scrub. The last might have been at least partly reversed through agri-environment schemes in recent years. In more recent times decline in habitat quality has also had a significant impact on populations (Plantlife Species Briefing Sheet, 2006). Based on the monitoring of a sample of sites, numbers of individuals in populations appeared to have suffered a recent decline prior to the previous reporting round (Wilson, 1999). However, given the large fluctuations (between sites and annually), it was not possible to suggest magnitude of this decline with any degree of confidence and this is still the case.	
2.4.12 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	

2.4.13 Long term trend Method used		
2.4.14 Favourable reference population	**a) Number of individuals/agreed exceptions/other units**	**154**
	This was the favourable reference population used in the last reoprting round. It needs to be set at a level which will at least maintain the range and population present at the time of the directive. Currently, a number of the sites contain very small populations, or are highly fragmented, and these are at high risk of loss. However, there is no particular need for there to be additional sites in order to maintain the range and population, simply that the current sites should contain viable populations.	
	b) Operator	
	c) FRP is unknown indicated by "true"	**False**
	d) Method used to set FRP	**The decision tree in Note 1 in 'Assessing Conservation Status: UK Approach', was used as a guide in determining the favourable reference population estimate in the last reoprting round. The same level was used again.** **The favourable reference population needs to be set at a level which will at least maintain the range and population present at the time of the directive. Currently, a number of the sites contain very small populations, or are highly fragmented, and these are at high risk of loss. However, there is no particular need for there to be additional sites in order to maintain the range and population, simply that the current sites should contain viable populations.**
2.4.15 Reason for change Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	**a) Genuine change?**	**True**
	A number of the sites contain very small populations, or are highly fragmented, and these are at high risk of loss. A continued decline was predicted last time and it is likely to have continued. The decline is unlikely to have been as large as suggested by the figures in box 2.4.1 and 2.4.2, but it is likely to be real.	

	b) Improved knowledge/more accurate data?	**False**
	c) Use of different method (e.g. "Range tool")?	**False**

2.5 Habitat for the species		
2.5.1 Area estimation		
	Although figures exist for the area of lowland calcareous grassland the plant only occupies a subset of this habitat within its limited range in southern Britain: 'This is a plant of sparsely vegetated base-rich parched grasslands. It is found in localities such as cliff tops, dunes, coastal slopes, south-facing chalk downs or mineral workings where bare ground is maintained by trampling, grazing, soil creep, exposure to wind and insolation. It usually grows in old established grasslands but it is also found on ancient and modern earthworks, including tumuli and 1940s rifle butts, chalk rubble dumped on lowland grazed heathland, and arable land which has reverted to grassland within the last 150 years' (Stewart et al., 1994). The proportion of lowland calcareous grassland that meets its requirements and therefore the area of suitable habitat is unknown. It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.
2.5.2 Year or period		
2.5.3 Method used Habitat for the species		
2.5.4 Quality of the habitat	**a) Habitat quality**	**Moderate**
	b) Assessment method	**CSM data from 2005-2012 analysed 90 units of SAC sites where the plant is recorded: 60 (2307.54Ha)were in favourable condition; 28 (868.53Ha) in unfavourable recovering condition; 1 (12.44Ha) unfavourable no change; and 1 (1.14Ha) destroyed. On SSSI (non SAC) sites with the plant 4 units (47.39Ha) were favourable and 8 (86.41Ha) unfavourable recovering.**
	SAC/SSSI condition depends on various features as well as (and not necessarily always including) how well G. anglica is doing on the site. Units will often contain various habitats that are not suitable for the plant, as well as suitable calcareous grassland. Nonetheless sites in	

	favourable condition can reasonably be expected to have suitable conditions for the plant. Those in unfavourable recovering condition should have appropriate management in place, though sward structure might not yet be suitable for the plant (which in some cases could already have been lost). The plant is recorded from up to 90 SAC units; 60 currently considered to be in favourable condition (2307.54Ha); 28 unfavourable recovering (868.53Ha); 1 unfavourable no change (12.44Ha) and 1 destroyed (1.14Ha). On SSSIs 4 units are favourable (47.39Ha) and 8 units unfavourable recovering (86.41Ha).	
2.5.5 Short-term trend Period	**2001-2012**	
2.5.6 Short-term trend Trend direction	**stable**	
	Out side SSSIs/SACs in particular the comments of Stewart et al. (1994) are more likely to still apply regarding difficulties of managing fragments of once suitable calcareous grassland habitat: "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." Agri-environment schemes have, however, enabled grazing to continue on many otherwise uneconomic sites and this, in combination with the focus on SAC/SSSI condition is likely to have stabilised or even reversed the decline in grassland quality in recent years.	
2.5.7 Long-term trend Period	**1989-2012**	
2.5.8 Long-term trend Trend direction	**unknown**	
	Habitat quality was reoprted as likely to be declining in the last reporting round. Accurate data on the loss of suitable grassland was not available, but there was a body of evidence to suggest gradual deterioration of unimproved grassland quality. Although this could not be quantified using existing data, observations suggested that habitat had declined in both area and quality. This might be at least partly offset by the focus of agri-environment schemes on management of unimproved calcareous grassland and on SAC and SSSI condition in particular. It may be that the suspected longer term decline has been partly reversed, but adequate data to support this is lacking.	
2.5.9 Area of suitable habitat for the species	**a) Value in km²**	
	b) Absence of data indicated as '0'	
2.5.10 Reason for change Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to	**a) Genuine change?**	**False**
	b) Improved knowledge/more	**False**

	accurate data?	
	c) Use of different method (e.g. "Range tool")?	**False**

2.6 Main pressures		
a) Pressure	**b) Ranking**	**c) Pollution qualifier**
	H = high importance M = medium importance L = low importance	
A04.03:	H	
A02.01:	M	

The main pressure is the same as reported by Stewart et al. (1994), namely lack of grazing, though this is offset to a degree by agri-environment schemes. Intensification is less likely to be an issue on remaining sites, many of which have statutory protection or are nature reserves.	
2.6.1 Method used – Pressures	**mainly based on expert judgement and other data**

2.7 Threats		
a) Threat	**b) Ranking**	**c) Pollution qualifier**
	H = high importance M = medium importance L = low importance	
A04.03:	H	
A02.01:	M	
A02.02:	L	
B01: forest planting on open ground	L	

The main threats continue to be abandonment of grazing and to a lesser degree agricultural intensification. Planting of trees on unimproved calcareous grassland has happened in the past 10 years but better consultation with FC means it is now rare. No known instances of loss of G anglica sites have been attributed to this in the current reoprting round. Similarly, ploughing of downland to plant arable crops should be a lower risk than abandonment, though figures are unavailable to support this contention.	
2.7.1 Method used – Threats	**expert opinion**

2.8 Complementary information	
2.8.1 Justification of % thresholds for trends	
2.8.2 Other relevant information	
2.8.3 Trans-boundary assessment	

2.9 Conclusions *(assessment of conservation status at end of reporting period)*
Please refer to the United Kingdom assessment for this species.

3 Natura 2000 coverage & conservation measures - Annex II species
(only applies to species listed under Annex II of the Directive)

3.1 Population		
3.1.1 Population size Estimation of population size included in the SAC network	**a) Unit**	
	The species is a reason for notification or occurs in SACs (Natura 2000). Of known sites on SAC 60 units (2307.54Ha) have been assessed as favourable in the current round of ISAs; 28 (868.53Ha)as unfavourable recovering; 1 (12.44Ha) unfavourable no change; and 1 (1.14Ha) destroyed. How this relates to localities as defined elsewhere in this report is uncertain.	
	b) Minimum	
	c) Maximum	
3.1.2 Method used	**Estimate based on partial data with some extrapolation and/or modelling**	
3.1.3 Trend of population size within the network (short-term trend)	**unknown**	

3.2 Conservation measures

Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.

3.2.1 Measure	3.2.2 Type					3.2.3 Ranking H = high importance M = medium importance L = low importance	3.2.4 Location where the measure is PRIMARILY applied			3.2.5 Broad evaluation of the measure					
	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off		a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated
2.1: Maintaining grasslands and other open habitats		Y				H			Y			Y			
6.1: Establish protected areas/sites	Y					H			Y	Y					
6.3: Legal protection of habitats and species	Y					L			Y	Y					

The species is a reason for notification or occurs in SACs (Natura 2000) and SSSIs. Of known sites on SAC 60 units (2307.54Ha) have been assessed as favourable in the current round of ISAs; 28 (868.53Ha)as unfavourable recovering; 1 (12.44Ha) unfavourable no change; and 1 (1.14Ha) destroyed. For SSSI (non SAC): 4 units (47.39Ha) favourable and 8 (86.41Ha) unfavourable recovering . Outside SSSIs the habitat for the plant, unimproved calcareous grassland, is a target for Agri-environment schemes with maintenance by grazing the preferred management. Legally the species is fully protected under Schedule 8, though in reality illegal trade or collecting is unlikely to pose a significant risk to this species.