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:

S1283 - Smooth snake (*Coronella austriaca*)

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**	**S1283**
	0.2.2 Species scientific name	***Coronella austriaca***
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	**Smooth snake**

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**
	Most smooth snake populations identified although only partial samples of larger sites available (e.g. the New Forest)
1.1.3 Year or period	**1997-2012**
	Smooth snakes are difficult and time-consuming to locate so pre-2007 survey data are required to ensure a complete picture of current distribution
1.1.4 Additional	**False**

distribution map	
1.1.5 Range map	

2.1 Biogeographical region & marine regions	**ATL**
2.2 Published sources	**"ARNOLD, H.R. 1995. Atlas of amphibians and reptiles in Britain. ITE Research Publication No.10. HMSO, London.** **BEEBEE, T.J.C. & GRIFFITHS, R.A. 2000. Amphibians and Reptiles: A Natural History of the British Herpetofauna. The New Naturalist series. HarperCollins, London.** **BRAITHWAITE, A.C. 1995. Pilot study for smooth snake Coronella austriaca Species Recovery Programme. English Nature Research Reports No. 138, English Nature, Peterborough.** **BRAITHWAITE, A.C., BUCKLEY, J., CORBETT, K.F., EDGAR, P.W., HASLEWOOD, E.S., HASLEWOOD, G.A.D., LANGTON, T.E.S. & WHITAKER, W.J. 1989. The distribution in England of the smooth snake (Coronella austriaca Laurenti). Herpetological Journal 1: 370-376.** **EUROPEAN HABITATS FORUM. 2006. Towards European Biodiversity Monitoring. Assessment, monitoring and reporting of conservation status of European habitats and species. Wien, Cambridge, Bruxelles.** **GENT, T. & GIBSON, S. 2003. Herpetofauna Workers Manual. Joint Nature Conservation Committee, Peterborough.** **GLEED-OWEN, C.P. 2004. Initial surveillance baseline datasets for the sand lizard Lacerta agilis, natterjack toad Bufo calamita and smooth snake Coronella austriaca in England. Report for English Nature, Peterborough.** **GLEED-OWEN, C, BUCKLEY, J, CONEYBEER, J, GENT, T, MCCRACKEN, M, MOULTON, N, & WRIGHT, D. 2005. Costed plans and options for herpetofauna surveillance and monitoring. English Nature Research Report No. 663, English Nature, Peterborough.** **LANGTON, T.E.S., BECKETT, C.L. & DUNSMORE, I. 1993. UK herpetofauna: a review of British herpetofauna populations in a wider context. Report 99F2AO69 to Joint Nature Conservation Committee. Joint Nature Conservation Committee, Peterborough.** **PERNETTA, A.P. 2009. Population ecology and conservation genetics of the smooth snake (Coronella austriaca) in a fragmented heath landscape. PhD Thesis, University of Southampton.**

	The Amphibian & Reptile Conservation Trust: Rare Species Database and Reptile and Amphibian Dataset (provided via the NBN Gateway)"

2.3 Range		
2.3.1 Surface area Range		
2.3.2 Method used Surface area of Range	**Estimate based on partial data with some extrapolation and/or modelling**	
	Monitoring of sites using artificial refugia and largely volunteer effort - this is required over longer periods tan six years to ensure a complete picture of smooth snake range	
2.3.3 Short-term trend Period		
2.3.4 Short term trend Trend direction		
2.3.5 Short-term trend Magnitude	**a) Minimum**	
	b) Maximum	
2.3.6 Long-term trend Period		
2.3.7 Long-term trend Trend direction		
2.3.8 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
2.3.9 Favourable reference range	**a) Value in km²**	
	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	
	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 map 1x1 km grid cells**
	Fine resolution of smooth snake distribution and population sizes are difficult to determine - number of occupied 1 km squares is the best unit of measurement	
	b) Minimum	**359**
	c) Maximum	**359**
2.4.3 Additional information on population estimates / conversion Optional	**a) Definition of "locality"**	
	b) Method to	

	convert data	
	c) Problems encountered to provide population size estimation	
2.4.4 Year or period	**2007-2012**	
	Monitoring period adequate using occupied 1km squares	
2.4.5 Method used Population size	**Estimate based on partial data with some extrapolation and/or modelling**	
2.4.6 Short-term trend Period	**2001-2012**	
2.4.7 Short-term trend Trend direction	**stable**	
	Short-term increase in number of occupied 1 km squares from 354 to 359 due to three new squares being located and two re-introductions during this period. However, several other populations have recently been assessed as having been damaged by fire, grazing and other management, cancelling out gains elsewhere. The short-term trend direction can therefore only be considered stable at best	
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	**stable**	
	Long-term increase of at least 5-10% due to discovery of new 1km squares, re-introductions and expansion of lowland heathland through habitat restoration and re-creation management. However, up to 10% of other populations have recently been assessed as having been damaged by fire, grazing and other management, cancelling out gains elsewhere. The long-term trend direction can therefore only be	

	considered stable at best	
2.4.12 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	**1**	
2.4.14 Favourable reference population	**a) Number of individuals/agreed exceptions/other units**	
	b) Operator	
	c) FRP is unknown indicated by "true"	**False**
	d) Method used to set FRP	
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**
	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	**72.9**	
2.5.2 Year or period	**2007-2012**	
2.5.3 Method used Habitat for the species	**Estimate based on partial data with some extrapolation and/or modelling**	
2.5.4 Quality of the habitat	**a) Habitat quality**	**Moderate**
	b) Assessment method	**By a combination of smooth snake surveys and expert opinion (N.B. an objective method for assessing habitat quality is not currently available although a Habitat Suitability Index for reptiles is being developed)**
2.5.5 Short-term trend Period	**2001-2012**	
	Estimated short-term increase in area of core habitat from 72.8 sq km to 72.9 sq km and suitable habtitat from 23.85 sq km to 23.88 sq km	
2.5.6 Short-term trend Trend direction	**stable**	
	Continued increase of occupied lowland heathland due habitat restoration and re-creation management. However, large areas of existing smooth snake habitat were also damaged by negative factors such as arson and inappropriate conservation management, cancelling out many of the gains elsewhere. The short-term trend direction can therefore only be considered stable at best	
2.5.7 Long-term trend Period	**1989-2012**	
2.5.8 Long-term trend Trend direction	**stable**	
	Long-term increase of occupied lowland heathland due extensive habitat restoration and re-creation management. However, large areas of existing smooth snake habitat were also damaged by negative factors such as arson and inappropriate conservation management, cancelling out many of the gains elsewhere. The long-term trend direction can therefore only be considered Stable at best	
2.5.9 Area of suitable habitat for the species	**a) Value in km²**	**238.8**
	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?**	**True**
	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: grazing	H	
B06: grazing in forests/ woodland	H	
G05: Other human intrusions and disturbances	H	
J01: fire and fire suppression	H	
K02: Biocenotic evolution, succession	H	
B01: forest planting on open ground	M	
B02: Forest and Plantation management & use	M	
E01: Urbanised areas, human habitation	M	
G01: Outdoor sports and leisure activities, recreational activities	M	
J03: Other ecosystem modifications	M	
B04: use of biocides, hormones and chemicals (forestry)	L	OTX
C01: Mining and quarrying	L	

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: grazing	H	

B06: grazing in forests/ woodland	H	
G05: Other human intrusions and disturbances	H	
J01: fire and fire suppression	H	
K02: Biocenotic evolution, succession	H	
B01: forest planting on open ground	M	
B02: Forest and Plantation management & use	M	
E01: Urbanised areas, human habitation	M	
G01: Outdoor sports and leisure activities, recreational activities	M	
J03: Other ecosystem modifications	M	
M01: Changes in abiotic conditions	M	
M02: Changes in biotic conditions	M	
B04: use of biocides, hormones and chemicals (forestry)	L	OTX
C01: Mining and quarrying	L	

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**	
	b) Minimum	
	c) Maximum	
3.1.2 Method used		
3.1.3 Trend of population size within the network (short-term trend)		

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	**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	M = medium importance L = low importance	a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated