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:

S1202 - Natterjack toad (*Bufo calamita*)

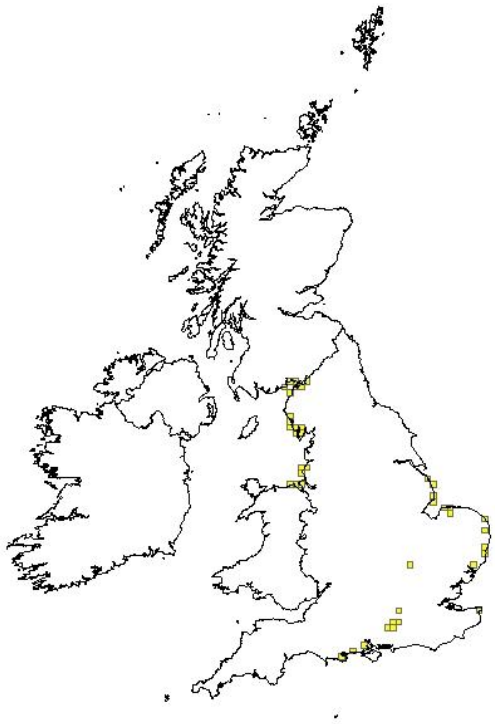
IMPORTANT NOTE – PLEASE READ

- 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**	**S1202**
	0.2.2 Species scientific name	***Bufo calamita***
	0.2.3 Alternative species scientific name Optional	**Epidalea calamita**
	0.2.4 Common name Optional	**Natterjack toad**

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



1.1.2 Method used - map	**Complete survey/Complete survey or a statistically robust estimate**
	Natterjack toad distribution in England is well understood as most sites are monitored every year (all are surveyed over any three year period), mostly by volunteers. Only a few small breeding populations are likely to remain undetected, e.g. on farmland along the west Cumbria coast.
1.1.3 Year or period	**2001-2012**
	Detailed records covering all known natterjack toad sites in England are available for the period 2001-2012

1.1.4 Additional distribution map	**False**
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.** **BANKS, B., BEEBEE, T.J.C. & COOKE, A.S. 1994. Conservation of the natterjack toad Bufo calamita in Britain over the period 1970-1990 in relation to site protection and other factors. Biological Conservation 67: 111-118.** **BEEBEE, T.J.C. 1976. The natterjack toad (Bufo calamita) in the British Isles: a study of past and present status. British Journal of Herpetology 5: 515-521.** **BEEBEE, T.J.C. 1983. The Natterjack Toad. Oxford University Press, Oxford.** **BEEBEE, T.J.C., & BUCKLEY, J. 2001. Natterjack toad (Bufo calamita) site register for the UK 1970-1999 inclusive. Unpublished report by the University of Sussex and The Herpetological Conservation Trust.** **BEEBEE, T. & DENTON, J. 1996. Natterjack Toad Conservation Handbook. English Nature, Peterborough.** **BEEBEE, T.J.C. & GRIFFITHS, R.A. 2000. Amphibians and Reptiles: A Natural History of the British Herpetofauna. The New Naturalist series. HarperCollins, London.** **BUCKLEY, J. & BEEBEE, T.J.C. 2004. Monitoring the conservation status of an endangered amphibian: the natterjack toad Bufo calamita in Britain. Animal Conservation 7: 221-228.** **DENTON, J.S., HITCHINGS, S.P. & BEEBEE, T.J.C. 1995. Natterjack toad Species Recovery Programme project 1992-95: final report. English Nature Research Reports No. 151, English Nature, Peterborough.** **DENTON, J.S., HITCHINGS, S.P., BEEBEE, T.J.C. & GENT, A. 1997. A recovery program for the natterjack toad (Bufo calamita) in Britain. Conservation Biology 11: 1329-1338.** **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.** **HITCHINGS, S.P. & BEEBEE, T.J.C. 1996. Persistence of British natterjack toad Bufo calamita Laurenti (Anura: Bufonidae) populations despite low genetic diversity. Biological Journal of the Linnean Society 57: 69-80.** **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.** **ROWE, G., BEEBEE, T.J.C. & BURKE, T. 1998. Phylogeography of the natterjack toad Bufo calamita in Britain: genetic differentiation of native and translocated populations. Molecular Ecology 7: 751-760.** **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	**Complete survey/Complete survey or a statistically robust estimate**	
	Natterjack toad distribution in England is well understood so the range area is likely to be reasonably accurate	
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 breeding females**
	Accurate counts of spawn strings give a good indication of the numbers of breeding females in each population (the totals of adult males are more difficult to estimate)	
	b) Minimum	**2000**
	c) Maximum	**2300**
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**	
	Detailed records are available for all known sites for the period 2007-2012	
2.4.5 Method used Population size	**Complete survey/Complete survey or a statistically robust estimate**	
	Counts of spawn strings to indicate numbers of breeding females	
2.4.6 Short-term trend Period	**2001-2012**	
	Detailed records are available for all known sites for the period 2001-2012	
2.4.7 Short-term trend Trend direction	**stable**	
	Populations have fluctuated during this period but overall numbers have remained relatively stable	
2.4.8 Short-term trend Magnitude	**a) Minimum**	

	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend Method used	**Complete survey/Complete survey or a statistically robust estimate**	
	Counts of spawn strings to indicate numbers of breeding females	
2.4.10 Long-term trend – Period	**1989-2012**	
	Detailed records are available for most known sites for the period 1989-2012	
2.4.11 Long-term trend Trend direction	**stable**	
	Huge population losses that occured until the 1970s were more or less stopped by the 1980s by dedicated conservation efforts and site protection. Natterjack toad populations have flucuated since then but there has been no significant increase as yet and overall numbers have remained relatively stable.	
2.4.12 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	**2**	
	Counts of spawn strings to indicate numbers of breeding females	
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?**	**False**
	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	**98**	
	Area of habitat includes approximate areas of sand dunes, lowland heathland, coastal habitats (including farmland) and upper salt marsh at all known sites	
2.5.2 Year or period	**2007-2012**	
	Detailed information is available for most known sites for the period 2007-2012	
2.5.3 Method used Habitat for the species	**Estimate based on partial data with some extrapolation and/or modelling**	
	Broad categories of natterjack habitat have been mapped on GIS for most sites	
2.5.4 Quality of the habitat	**a) Habitat quality**	**Moderate**
	The habitats on natterjack sites vary in quality, with some in good condition and others still requiring further conservation interventions	
	b) Assessment method	**Visual qualitative assessments combined with SSSI condition monitoring of habitat quality**
2.5.5 Short-term trend Period	**2001-2012**	
	Detailed information is available for most known sites for the period 2001-2012	
2.5.6 Short-term trend	**increase**	

Trend direction	Many natterjack sites have improved in habitat quantity and quality during this period due to conservation intervanetions, particularly management funded by Higher Level Stewardship Schemes	
2.5.7 Long-term trend Period	**1989-2012**	
	Detailed information is available for most known sites for the period 1989-2012	
2.5.8 Long-term trend Trend direction	**increase**	
	Many natterjack sites have improved in habitat quantity and quality during this period due to conservation interventions, particularly management funded by Wildlife Enhancement Schemes and, latterly, Higher Level Stewardship Schemes	
2.5.9 Area of suitable habitat for the species	**a) Value in km²**	**150**
	Large areas of coastal habitat, primarily in Cumbria and East Anglia, are thought to suitable for natterjack toads - conservation agreements are currently being targeted at linking existing populations through the re-instatement of breeding ponds at "stepping stone" sites in such areas	
	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**
	Increased habitat through conservation management, re-introductions and new surveys	
	b) Improved knowledge/more accurate data?	**False**
	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	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	ANOPTX
I01: invasive non-native species	H	
J02: human induced changes in hydraulic conditions	H	
K02: Biocenotic evolution, succession	H	
K05: reduced fecundity/ genetic	H	

depression		
A02: modification of cultivation practices	M	
A08: Fertilisation	M	NPX
A10: Restructuring agricultural land holding	M	
B01: forest planting on open ground	M	
D01: Roads, paths and railroads	M	
H04: Air pollution, air-borne pollutants	M	AX
I02: problematic native species	M	
J03: Other ecosystem modifications	M	
K01: abiotic (slow) natural processes	M	
L08: inundation (natural processes)	M	
A07: use of biocides, hormones and chemicals	L	OTX
E01: Urbanised areas, human habitation	L	
E02: Industrial or commercial areas	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	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	ANOPTX
I01: invasive non-native species	H	
J02: human induced changes in hydraulic conditions	H	
K01: abiotic (slow) natural processes	H	
K05: reduced fecundity/ genetic depression	H	
A02: modification of cultivation practices	M	

A08: Fertilisation	M	NPX
A10: Restructuring agricultural land holding	M	
B01: forest planting on open ground	M	
D01: Roads, paths and railroads	M	
H04: Air pollution, air-borne pollutants	M	AX
I02: problematic native species	M	
J03: Other ecosystem modifications	M	
K02: Biocenotic evolution, succession	M	
L08: inundation (natural processes)	M	
M01: Changes in abiotic conditions	M	
M02: Changes in biotic conditions	M	
A07: use of biocides, hormones and chemicals	L	OTX
E01: Urbanised areas, human habitation	L	
E02: Industrial or commercial areas	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
