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

Conservation status assessment for the species:

S6284 - Natterjack toad (*Epidalea calamita*)

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents 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.
- It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.
- The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Maps showing the distribution and range of the species are included (where available).
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level reports.
- 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 not relevant to this species (section 12 Natura 2000 coverage for Annex II species).
- The UK-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**
1.2 Species code	**6284**
1.3 Species scientific name	**Epidalea calamita**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Natterjack toad

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	Complete survey or a statistically robust estimate
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?	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

England

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5. Range

5.1 Surface area (km²)	3074.13
5.2 Short-term trend Period	2007-2018
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	Complete survey or a statistically robust estimate
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 (km²) b) Operator Approximately equal to (≈) c) Unknown d) Method The FRR has changed since 2013. An FRR operator has been used because it has not been possible to calculate the exact FRR. This is due to a change in availability of underpinning mapping data since 2013. The FRR is considered to be sufficient to maintain a viable population and is no less that when the Habitats Directive came into force in the UK. For further details see the 2019 Article 17 UK Approach document.
5.11 Change and reason for change in surface area of range	Genuine change Use of different method The change is mainly due to: Genuine change
5.12 Additional information	The current range surface area calculation does not represent the real range

surface area. Change in availability of underpinning mapping data has resulted in an apparent decrease in range area compared to 2013, but this is not due to genuine change. Expert opinion considers the trend in range to be stable. The real range surface area is considered to be the range in 2013 - 5,096.28km2. The FRR in 2013 was 4,100km2. The FRR has been changed to an operator 'approximately equal to current' to reflect this. For further information see the 2019 Article 17 UK Approach document.

6. Population

6.1 Year or period		1990-2018
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	142
6.3 Type of estimate		Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit	number of breeding females (bfemales)
	b) Minimum	
	c) Maximum	
	d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used		Complete survey or a statistically robust estimate
6.7 Short-term trend Period		2007-2018
6.8 Short-term trend Direction		Stable (0)
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interval	
6.10 Short-term trend Method used		Complete survey or a statistically robust estimate
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interval	
6.14 Long-term trend Method used		
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size	
	b) Operator	Much more than (>>)
	c) Unknown	
	d) Method	The FRP has changed since 2013. An FRP operator has been used because it had not been possible to calculate the exact FRP value. The FRP is considered to be more than 25% above the current population. See the 2019 Article 17 UK Approach document for further

information.

6.16 Change and reason for change in population size	Genuine change Improved knowledge/more accurate data Use of different method The change is mainly due to: Genuine change
6.17 Additional information	The FRP in 2013 was 1,000 breeding females. Data in this population unit is not available for population in the current reporting population. Therefore the FRP was set as an operator.

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (for long-term survival)?	No
	b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?	Unknown
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	Stable (0)	
7.5 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data	
7.6 Long-term trend Period		
7.7 Long-term trend Direction		
7.8 Long-term trend Method used		
7.9 Additional information	In England, which holds the majority of the resource (c.76% of the population), whilst there is sufficient habitat to support a viable population there is no evidence to suggest this is sufficient in quantity and quality to achieve Favourable Conservation status (FCS).	

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Extensive grazing or undergrazing by livestock (A10)	H
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Modification of hydrological flow (K04)	H
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	M

Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H

Threat	Ranking
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Extensive grazing or undergrazing by livestock (A10)	H
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Modification of hydrological flow (K04)	H
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Sea-level and wave exposure changes due to climate change (N04)	M

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

Increase the population size and/or improve population dynamics (improve reproduction success, reduce mortality, improve age/sex structure) (related to 'Population')

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

Restore small landscape features on agricultural land (CA02)

Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Reduce/eliminate point pollution to surface or ground waters from agricultural activities (CA10)
Management of problematic native species (CI05)
Reduce impact of mixed source pollution (CJ01)
Restore habitats impacted by multi-purpose hydrological changes (CJ03)
Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes (CL01)
Other measures related to natural processes (CL04)
Implement climate change adaptation measures (CN02)
Improvement of habitat of species from the directives (CS03)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

a) Range	Poor
b) Population	Bad
c) Habitat of the species	Poor

10.2 Additional information

Future trend of Range is Negative - decreasing <=1% (one percent or less) per year on average; Future trend of Population is Negative - decreasing <=1% (one percent or less) per year on average; and Future trend of Habitat for the species is Overall stable. For further information on how future trends inform the Future prospects conclusion see the 2019 Article 17 UK Approach document.

11. Conclusions

11.1. Range	Favourable (FV)
11.2. Population	Unfavourable - Bad (U2)
11.3. Habitat for the species	Unfavourable - Inadequate (U1)
11.4. Future prospects	Unfavourable - Bad (U2)
11.5 Overall assessment of Conservation Status	Unfavourable - Bad (U2)
11.6 Overall trend in Conservation Status	Stable (=)

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

Use of different method

The change is mainly due to: Use of different method

11.8 Additional information

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is not less than the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in Population size is stable; and (ii) the current Population size is more than 25%

below the Favourable Reference Population.

Conclusion on Habitat for the species reached because: (i) the area of occupied habitat is not sufficiently large and the area of occupied and unoccupied habitat is unknown, and (ii) the habitat quality is unknown for the long-term survival of the species; and (iii) the short-term trend in area of habitat is stable.

Conclusion on Future prospects reached because: (i) the Future prospects for Range are poor; (ii) the Future prospects for Population are bad; and (iii) the Future prospects for Habitat for the species are poor.

Overall assessment of Conservation Status is Unfavourable-bad because two conclusions are Unfavourable-bad.

Overall trend in Conservation Status is based on the combination of the short-term trends for Range – stable, Population – stable, and Habitat for the species – uncertain.

The Overall assessment of Conservation Status has not changed since 2013.

The Overall trend in Conservation Status has changed between 2013 and 2019 because the Habitat for the species trend has changed from stable to uncertain [note that the reason for change is due to less information/accuracy or certainty in the information available, and because of the removal of the Future prospects trend from the 2019 method used to assess Overall trend.

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 b) Minimum c) Maximum d) Best single value
12.2 Type of estimate	
12.3 Population size inside the network Method used	
12.4 Short-term trend of population size within the network Direction	
12.5 Short-term trend of population size within the network Method used	
12.6 Additional information	

13. Complementary information

13.1 Justification of % thresholds for trends	
13.2 Trans-boundary assessment	

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13.3 Other relevant Information

Distribution Map

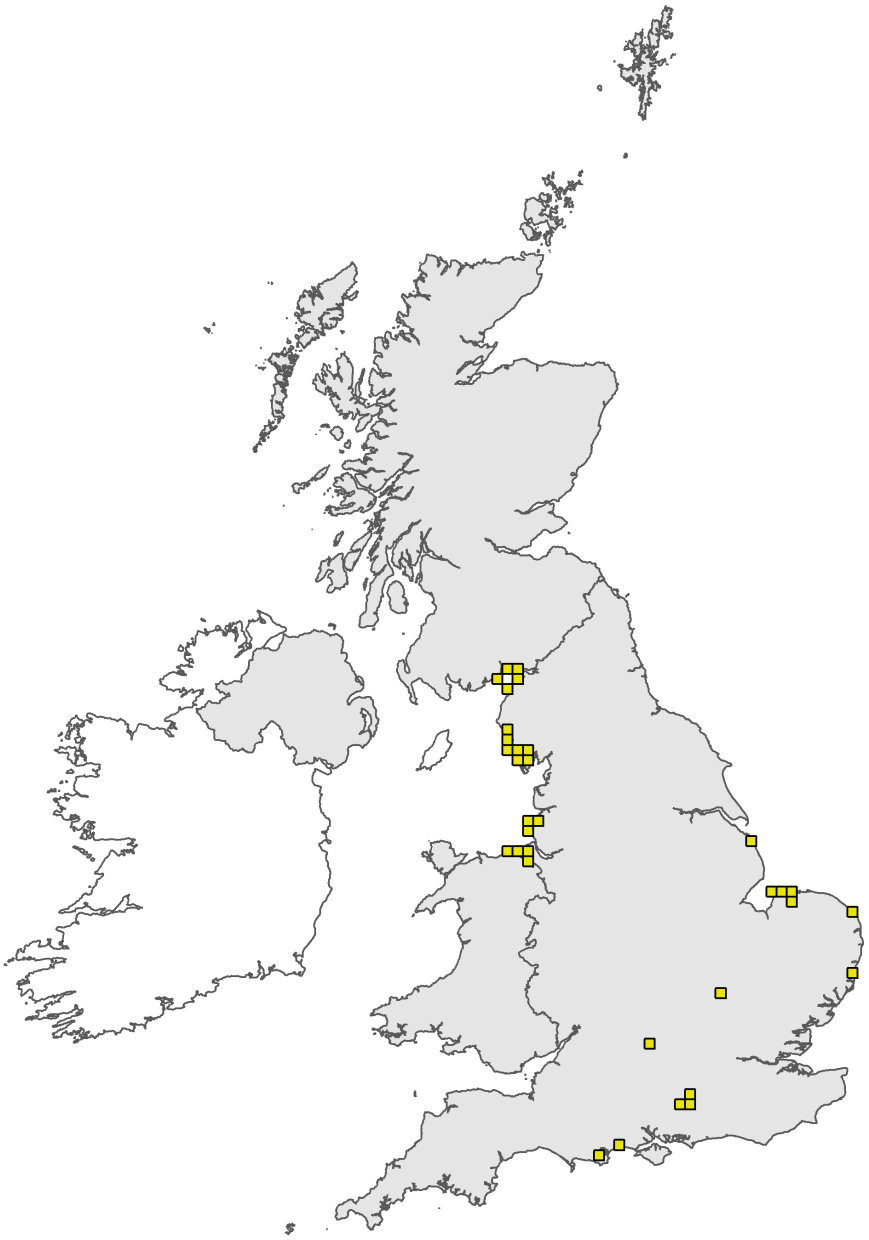

Figure 1: UK distribution map for S6284 - Natterjack toad (*Epidalea calamita*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

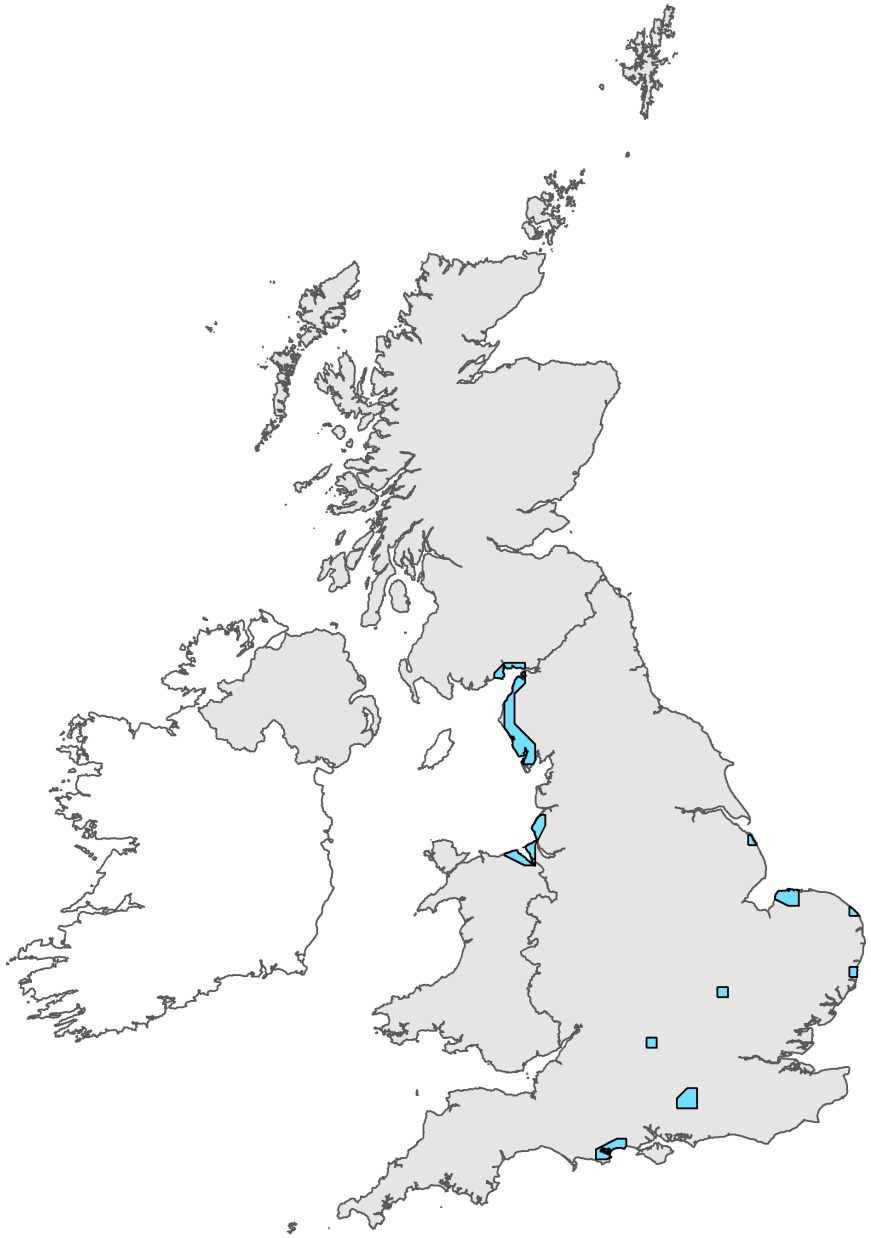

Figure 2: UK range map for S6284 - Natterjack toad (*Epidalea calamita*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.