

**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:

S1213 - Common frog (*Rana temporaria*)

**IMPORTANT NOTE – PLEASE READ**

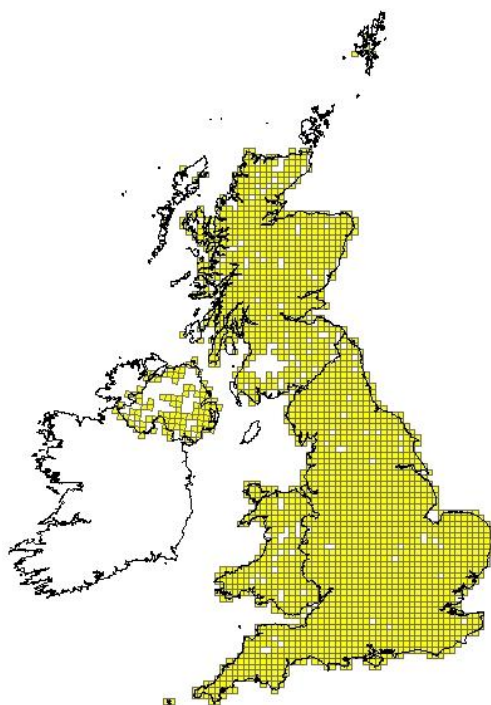
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural Resources Wales** and refers only to the state of the habitat/species in **Wales** - it does not constitute an assessment 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.

As of 1 April 2013, the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales became Natural Resources Wales/Cyfoeth Naturiol Cymru

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

<i>Field name</i>	<i>Brief explanations</i>	
<b>0.2 Species</b>	<b>0.2.1 Species code</b>	<b>S1213</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Rana temporaria</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Common frog</b>

<b>1.1 Maps</b>		
<b>1.1.1 Distribution map</b>		<b>Sensitive</b> <b>False</b>



<b>1.1.2 Method used - map</b>	<p><b>Estimate based on partial data with some extrapolation and/or modelling</b></p> <p>Whilst this is a very widespread and generally common species in Wales, it is also very under recorded with many 10km squares only having historical data associated with them. This report is therefore based on expert opinion in many cases. Some Welsh data comes from the National Amphibian Survey (Swan &amp; Oldham, 1989 and 1993) which relied on observers sending in records and from the more recent sample survey, the National Amphibian and Reptile Recording Scheme (NARRS)- see Wilkinson &amp; Arnell, 2011. There is no blanket survey data for Wales. The data sets held by Amphibian and Reptile Conservation Trust (ARC,</p>
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	formerly Herpetological Conservation Trust, HCT) and NBN have been used to construct the distribution map.
<b>1.1.3 Year or period</b>	<b>1976-2012</b>
	The previous report was based on a 37 year dataset and the same time period has been applied again using 1976 to 2012. This is due to the generally random nature of frog records. Data points come from the records held by HCT/ARC and NBN and reflect the current range of the common frog.
<b>1.1.4 Additional distribution map</b>	<b>False</b>
<b>1.1.5 Range map</b>	

<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p><b>"BAKER, J., BEEBEE, T., BUCKLEY, J., GENT, T. &amp; ORCHARD, D. 2011. Amphibian habitat management handbook. Amphibian and Reptile Conservation, Bournemouth.</b></p> <p><b>COOKE, A.S. &amp; SCORGIE, H.R.A. 1983. The status of the commoner amphibians and reptiles in Britain. Huntingdon: Nature Conservancy Council.</b></p> <p><b>CUMMINS, C.P. &amp; ROSS, A. 1986. Effects of acidification of natural waters upon amphibians. CEC/NERC Contract EV3V.0907.UK(H). Brussels, Final Report to the Commission of the European Communities.</b></p> <p><b>HILTON-BROWN, D. &amp; OLDHAM, R.S. 1991. The status of the widespread amphibians and reptiles in Britain, 1990, and changes during the 1980's. Nature Conservancy Council Report 131. NCC, Peterborough.</b></p> <p><b>LANGTON, T.E.S., BECKETT, C.L. &amp; DUNSMORE, I. 1993. UK herpetofauna: a review of British herpetofauna populations in a wider context. Report 99F2A069 to Joint Nature Conservation Committee. Peterborough.</b></p> <p><b>SWAN, M.J.S. &amp; OLDHAM, R.S. 1993. Herptile sites volume 1: national amphibian survey final report. English Nature Research Report No. 38. Peterborough: English Nature.</b></p> <p><b>SWAN, M.J.S. &amp; OLDHAM, R.S. 1989. Amphibian communities final report. Unpublished report. Peterborough: Nature Conservancy Council.</b></p> <p><b>WILKINSON, J.W. &amp; ARNELL, A.P. 2011. NARRS Report 2007 – 2009: Interim results of the UK National Amphibian and Reptile Recording Scheme widespread species surveys. ARC Research Report 11/01."</b></p>

<b>2.3 Range</b>	
<b>2.3.1 Surface area</b>	

<b>Range</b>		
<b>2.3.2 Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
<b>Surface area of Range</b>	as 1.1.2	
<b>2.3.3 Short-term trend</b>		
<b>Period</b>	It is not possible to report a trend due to the paucity of new frog records for any reasonable recording period.	
<b>2.3.4 Short term trend</b>		
<b>Trend direction</b>	This is unknown. See 2.3.3	
<b>2.3.5 Short-term trend</b>		
<b>Magnitude</b>	<b>a) Minimum</b>	
	This is unknown. See 2.3.3	
	<b>b) Maximum</b>	
	This is unknown .See 2.3.3	
<b>2.3.6 Long-term trend</b>	<b>1976-2012</b>	
<b>Period</b>	1976-2012 is used due to the paucity of regular and systematic new and updated records for common frog. Data points come from the records held by HCT/ARC and NBN and reflect the current range of the common frog.	
<b>2.3.7 Long-term trend</b>	<b>stable</b>	
<b>Trend direction</b>	This is probably stable as assessed in the last report- it is still generally widespread and there is no reason to suppose that range has changed. Earlier reports (Cooke & Scorgie, 1983; Hilton-Brown & Oldham, 1991 and Langton, Beckett & Dunsmore, 1993) provide information on status and trends in a general way and also set the UK population of this species in an international context. Data from NARRS (Wilkinson & Arnell, 2011) indicates that common frog is present in 60% of sampled ponds in both Wales and the UK as a whole.	
<b>2.3.8 Long-term trend</b>		
<b>Magnitude</b>	<b>a) Minimum</b>	
Optional	This is unknown .See 2.3.3	
	<b>b) Maximum</b>	
	This is unknown .See 2.3.3	
<b>2.3.9 Favourable reference</b>	<b>a) Value in km<sup>2</sup></b>	
<b>range</b>		
	<b>b) Operator for FRR</b>	
	<b>c) FRR is unknown (indicated by "true")</b>	<b>False</b>

	<b>d) Method used to set FRR</b>	
<b>2.3.10 Reason for change</b> Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	<b>a) Genuine change?</b>	<b>False</b>
	See 2.3.3	
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.4 Population</b>		
<b>2.4.1 Population size estimation</b> (using individuals or agreed exceptions where possible)	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>2.4.2 Population size estimation</b> (using population unit other than individuals) Optional ( <i>if 2.4.1 filled in</i> )	<b>a) Unit</b>	<b>number of map 10x10 km grid cells</b>
	Occupied 10km squares is used as in 2007 report.	
	<b>b) Minimum</b>	<b>204</b>
	There are 242 10km squares occupied in Wales (204 in Wales only and 38 in combination with England). Accurate location of the boundary records is difficult due to the inability to access some datasets.	
	<b>c) Maximum</b>	<b>242</b>
see 2.4.2b		
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<b>a) Definition of "locality"</b>	
	<b>b) Method to convert data</b>	
	<b>c) Problems encountered to</b>	

	<b>provide population size estimation</b>	
<b>2.4.4 Year or period</b>	<b>1976-2012</b> See 2.3.6	
<b>2.4.5 Method used Population size</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b> There is no complete survey of common frog available. Data has been taken from a wide time period to include as much data as is felt representative of the distribution/population of the species.	
<b>2.4.6 Short-term trend Period</b>	<b>2001-2012</b> 2001-2012 used as advised	
<b>2.4.7 Short-term trend Trend direction</b>	<b>stable</b> The population is probably stable as assessed in the last report- it is still generally widespread and there is no reason to suppose that populations have changed within this time frame . Data from NARRS ( Wilkinson & Arnell, 2011) indicates that common frog is present in 60% of sampled ponds in both Wales and the UK as a whole. See also refs cited in 2.2	
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b> There has probably been no change	
	<b>b) Maximum</b> See 2.4.8a	
	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Estimate based on expert opinion with no or minimal sampling</b> Due to the lack of comprehensive or even regular frog records from many parts of the range, the use of 'stable' in 2.4.7 is an estimate based on expert opinion.	
<b>2.4.10 Long-term trend – Period</b>	<b>1989-2012</b> 1989-2012 used as advised	
<b>2.4.11 Long-term trend Trend direction</b>	<b>stable</b> The population is probably stable as assessed in the last report- it is still generally widespread and there is no reason to suppose that populations have changed within this time frame . Data from NARRS ( Wilkinson & Arnell, 2011) indicates that common frog is present in 60% of sampled ponds in both Wales and the UK as a whole. Cooke & Scorgie, 1983; Hilton-Brown & Oldham, 1991 and Langton, Beckett & Dunsmore, 1993 provide historical comments on populations.	

<b>2.4.12 Long-term trend Magnitude</b> Optional	<b>a) Minimum</b>	
	There has probably been no change	
	<b>b) Maximum</b>	
	See 2.4.12a	
	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b>	<b>1</b>	
	Due to the lack of comprehensive or even regular frog records from many parts of the range, the use of 'stable' in 2.4.11 is an estimate based on expert opinion.	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	
	<b>b) Operator</b>	
	<b>c) FRP is unknown indicated by "true"</b>	<b>False</b>
	<b>d) Method used to set FRP</b>	
<b>2.4.15 Reason for change</b> Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	<b>a) Genuine change?</b>	<b>False</b>
	See 2.3.7	
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.5 Habitat for the species</b>			
<b>2.5.1 Area estimation</b>	<p>The area occupied by common frog in Wales is unknown. We have measured the range using occupied 10km squares, however we do not know how much of each 10km square is actually used by frogs. This depends to some extent on the number of ponds in each square, which can be very variable as well as the amount of suitable terrestrial habitat.</p> <p>There is thought to be a sufficient amount of habitat in the UK to support a viable population of the species.</p>		
<b>2.5.2 Year or period</b>	<p>Not applicable See 2.5.1</p>		
<b>2.5.3 Method used Habitat for the species</b>	<p><b>Absent data</b> Absent data has been reported here as we do not have a measure of the amount of common frog habitat nor its condition. This is the same as the previous report in 2007.</p>		
<b>2.5.4 Quality of the habitat</b>	<table border="1"> <tr> <td><b>a) Habitat quality</b></td> <td><b>Unknown</b></td> </tr> </table> <p>Unknown entered as for last report in 2007. We do not have any data sets to enable us to describe the condition of aquatic and terrestrial habitats used by common frog</p>	<b>a) Habitat quality</b>	<b>Unknown</b>
	<b>a) Habitat quality</b>	<b>Unknown</b>	
	<table border="1"> <tr> <td><b>b) Assessment method</b></td> <td></td> </tr> </table>	<b>b) Assessment method</b>	
<b>b) Assessment method</b>			
<b>2.5.5 Short-term trend Period</b>	<p><b>2001-2012</b> 2001-2012</p>		
<b>2.5.6 Short-term trend Trend direction</b>	<p><b>unknown</b> Unknown. As noted in the 2007 report, we can only surmise that historically there has been habitat loss concurrent with agricultural intensification and built development. Whilst this may have slowed in the period 2001-2012 due to agri-environment schemes, wildlife and planning legislation, we cannot provide any evidence of this.</p>		
<b>2.5.7 Long-term trend Period</b>	<p><b>1989-2012</b> 1989-2012</p>		
<b>2.5.8 Long-term trend Trend direction</b>	<p><b>unknown</b> See 2.5.6</p>		
<b>2.5.9 Area of suitable habitat for the species</b>	<table border="1"> <tr> <td><b>a) Value in km<sup>2</sup></b></td> <td><b>0</b></td> </tr> </table> <p>Unknown- see 2.5.6 See 2.5.6</p>	<b>a) Value in km<sup>2</sup></b>	<b>0</b>
	<b>a) Value in km<sup>2</sup></b>	<b>0</b>	
	<table border="1"> <tr> <td><b>b) Absence of data indicated as '0'</b></td> <td></td> </tr> </table>	<b>b) Absence of data indicated as '0'</b>	
<b>b) Absence of data indicated as '0'</b>			
<b>2.5.10 Reason for change</b> Is the difference between the value reported at 2.5.1 and the previous reporting round mainly	<table border="1"> <tr> <td><b>a) Genuine change?</b></td> <td><b>False</b></td> </tr> </table>	<b>a) Genuine change?</b>	<b>False</b>
	<b>a) Genuine change?</b>	<b>False</b>	
See 2.5.6			



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

<b>2.6 Main pressures</b>		
<b>a) Pressure</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A02: modification of cultivation practices	M	
K02: Biocenotic evolution, succession	M	
A07: use of biocides, hormones and chemicals	L	
A08: Fertilisation	L	
A10: Restructuring agricultural land holding	L	
D01: Roads, paths and railroads	L	
E01: Urbanised areas, human habitation	L	
E02: Industrial or commercial areas	L	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	L	X
H02: Pollution to groundwater (point sources and diffuse sources)	L	X
H04: Air pollution, air-borne pollutants	L	AN
I01: invasive non-native species	L	
J02: human induced changes in hydraulic conditions	L	
J03: Other ecosystem modifications	L	
K03: Interspecific faunal relations	L	

These pressures all relate to common frogs in Wales and can be referenced to Baker et.al., 2011. A02: modification of agricultural practices in the form of intensification and grassland removal causes terrestrial habitat loss and degradation and also impacts on aquatic habitats through loss and damage. A07: use of biocides etc- these all impact especially on the aquatic environment causing direct impacts on tadpoles or aquatic invertebrates and also on terrestrial prey items (Baker et al, 2011). A08: Fertilisation of farmland

causes run off into ditches and ponds leading to pollution or water quality issues. Whilst this may not directly poison frogs, it can impact on the growth of aquatic plants and therefore lead to succession and pond loss. (Baker et al, 2011). A10: restructuring farmland includes the removal of field boundaries, scrub, draining ponds and culverting open ditches. All of these impact on frog habitat causing direct losses and also impacting on connectivity of breeding and non-breeding habitats. D01: Roads etc cause severance of breeding and terrestrial habitat areas and if newly located next to breeding ponds cause direct mortality during the migrating seasons. Additional problems can be caused by run off from road surfaces into ponds and ditches and the impact of road salt has been noted (Baker et al 2011). Road drainage systems- gully pots- act as traps for amphibians whilst SUDS schemes can provide additional habitat (reed beds). E01 and E02: urbanisation (both habitation and industrial) encroach on rural habitats thus directly reducing available habitats for frogs. There is also the impact of fragmentation and water quality issues. H01: pollution to surface waters- refers to the impact of run off from adjacent land on aquatic habitat causing enrichment and more rapid succession of vegetation in the ponds and direct addition of toxic pollutants which impact on both frogs and their prey. H02: pollution to ground water- see H01. H04: Aerial pollution in the form of nitrogen impacts aquatic systems as noted above, whilst acidification of upland habitats and ponds can limit their productivity for frogs (Cummins & Ross, 1986). I01: Invasive non-natives- both plants and animals can impact on common frog populations. Direct predation by American Bullfrog, transmission of disease or overgrowth of ponds by aquatic plant invasion all add additional pressures on frog populations ( Baker et al, 2011) J02: human induced changes to water levels in ponds and terrestrial habitat can be due to many factors, so I have chosen this general one. Reduction in the water table can be due to reduced water input from the land, due to agricultural or domestic drainage, infrastructure construction. J03: relates to habitat fragmentation, presence of migration barriers such as roads, railways and built up areas without ponds. K02: relates to scrub encroachment on aquatic and terrestrial habitats. This leads to siltation and drying out and ultimately loss of the pond. K03: relates to direct predation of eggs and larvae by invertebrates and fish. It also applies to animal diseases which could impact on frogs. The presence of Chytrid fungus has been confirmed at Welsh natterjack sites (Cunningham & Minting, 2008) and it has been found in common frogs. Ranavirus infects common frogs, leading to skin lesions and secondary infection/death (Baker et al, 2011). Mass mortality can occur, but populations have also recovered. It may have arrived in the UK via non-native species.

**2.6.1 Method used – Pressures**

**mainly based on expert judgement and other data**

2: I have assigned pressures relating to my and HCT/ARC colleagues experience of the species. The pressures for Welsh common frogs remain essentially the same as at the last reporting round.

<b>2.7 Threats</b>		
<b>a) Threat</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A02: modification of cultivation practices	M	
K02: Biocenotic evolution, succession	M	
A07: use of biocides, hormones and chemicals	L	
A08: Fertilisation	L	
A10: Restructuring agricultural land holding	L	

D01: Roads, paths and railroads	L	
E01: Urbanised areas, human habitation	L	
E02: Industrial or commercial areas	L	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	L	X
H02: Pollution to groundwater (point sources and diffuse sources)	L	X
H04: Air pollution, air-borne pollutants	L	AN
I01: invasive non-native species	L	
J02: human induced changes in hydraulic conditions	L	
J03: Other ecosystem modifications	L	
K03: Interspecific faunal relations	L	
M01: Changes in abiotic conditions	L	

See 2.6 for a list of pressures ( and references) which I believe will continue to be threats to the common frog population of Wales into the future. Agricultural/land management changes will continue to have an impact on this wide ranging species that is found in many habitats. Whilst urban populations can and do survive in garden/park ponds, the quality of the terrestrial habitat is often less suitable. Continued expansion of the built environment will further reduce suitable available habitat. Non native invasive species will continue to be a threat to native population, whilst thir role in disease spread needs further evaluation. The impact of climate change on this widespread generalist species is difficult to predict. A wetter climate in the west should enable the retention of aquatic breeding habitats, whilst warmer winters could impact further on the phenology of breeding activity.

<b>2.7.1 Method used – Threats</b>	<b>expert opinion</b>
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	1- see 2.6.1
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## 2.8 Complementary information

<b>2.8.1 Justification of % thresholds for trends</b>	
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<b>2.8.2 Other relevant information</b>	
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	<b>The difficulty in reporting more accurately for range, population and habitat for this widespread, generalist, common species</b>
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	<p>seems somewhat surprising. The report is essentially the same as that in 2007 when many details were recorded as unknown. It is not possible to collect distribution data for a species like this systematically across its wide range; records are mostly ad hoc in nature. The NARRS scheme (Wilkinson &amp; Arnell, 2011) will start to give a systematic sample survey across the UK when more recorders are able to take part.</p>
<b>2.8.3 Trans-boundary assessment</b>	

### 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*)

<b>3.1 Population</b>		
<b>3.1.1 Population size</b>  Estimation of population size included in the SAC network	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>3.1.2 Method used</b>		
<b>3.1.3 Trend of population size within the network</b> (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 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

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