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

Supporting documentation for the
conservation status assessment for the species:

S1213 - Common frog (*Rana temporaria*)

WALES

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to 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.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this species is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- 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; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).
- For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-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 (Wales information only)**
1.2 Species code	**1213**
1.3 Species scientific name	**Rana temporaria**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Common frog

2. Maps

2.1 Sensitive species	No
2.2 Year or period	1976-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
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

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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

ARC DATA. Occupancy data for herpetofauna is based on data held internally by Amphibian and Reptile Conservation, combining a variety of data sources.
BAKER, J., BEEBEE, T., BUCKLEY, J., GENT, T. & ORCHARD, D. 2011. Amphibian habitat management handbook. Amphibian and Reptile Conservation, Bournemouth.
COOKE, A.S. & SCORGIE, H.R.A. 1983. The status of the commoner amphibians and reptiles in Britain. Huntingdon: Nature Conservancy Council.
CUMMINS, C.P. & 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.
CUNNINGHAM, AA & MINTING, P 2008. National survey of Batrochochytridium dendrobatridis infection in UK amphibians 2008. Final report, Institute of Zoology, London.
HILTON-BROWN, D. & 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.
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. Peterborough.
MARTEL, A., SPITZEN-VAN DER SLUIJS, A, BLOOI, M, BERT, W, DUCATELLE, R, FISHER, MC, WOELTJES, A, BOSMAN, W, CHIERS, K, BOSSUYT, F & PASMANS, F 2013. Batrachochytrium salamandrivorans sp. nov. causes lethal chytridiomycosis in amphibians. Proc. Natl. Acad. Sci. USA 110, p.15325-9.
SWAN, M.J.S. & OLDHAM, R.S. 1993. Herptile sites volume 1: national amphibian survey final report. English Nature Research Report No. 38. Peterborough:

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

English Nature.
SWAN, M.J.S. & OLDHAM, R.S. 1989. Amphibian communities final report. Unpublished report. Peterborough: Nature Conservancy Council.
WILKINSON, J.W. & 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.

5. Range

5.1 Surface area (km²)		
5.2 Short-term trend Period		
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		
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 c) Unknown d) Method	
5.11 Change and reason for change in surface area of range	No change The change is mainly due to:	
5.12 Additional information		

6. Population

6.1 Year or period	2007-2018	
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	964
6.3 Type of estimate	Minimum	
6.4 Additional population size (using population unit other than reporting unit)	a) Unit	number of map 10x10 km grid cells (grids10x10)
	b) Minimum	
	c) Maximum	
	d) Best single value	202
6.5 Type of estimate	Minimum	
6.6 Population size Method used	Based mainly on extrapolation from a limited amount of data	
6.7 Short-term trend Period	2007-2018	

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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	Based mainly on extrapolation from a limited amount of data
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 c) Unknown d) Method
6.16 Change and reason for change in population size	No change The change is mainly due to:
6.17 Additional information	

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)?	Unknown
	b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?	
7.2 Sufficiency of area and quality of occupied habitat Method used	Based mainly on extrapolation from a limited amount of data	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Unknown (x)	
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		

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M

Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M

Threat	Ranking
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M

8.2 Sources of information

8.3 Additional information

9. Conservation measures

9.1 Status of measures

a) Are measures needed? No

b) Indicate the status of measures

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

10. Future prospects

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

10.1 Future prospects of parameters	a) Range b) Population c) Habitat of the species
10.2 Additional information	

11. Conclusions

11.1. Range	
11.2. Population	
11.3. Habitat for the species	
11.4. Future prospects	
11.5 Overall assessment of Conservation Status	
11.6 Overall trend in Conservation Status	
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 No change The change is mainly due to:
11.8 Additional information	

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	

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

13.2 Trans-boundary assessment

13.3 Other relevant Information

Distribution Map

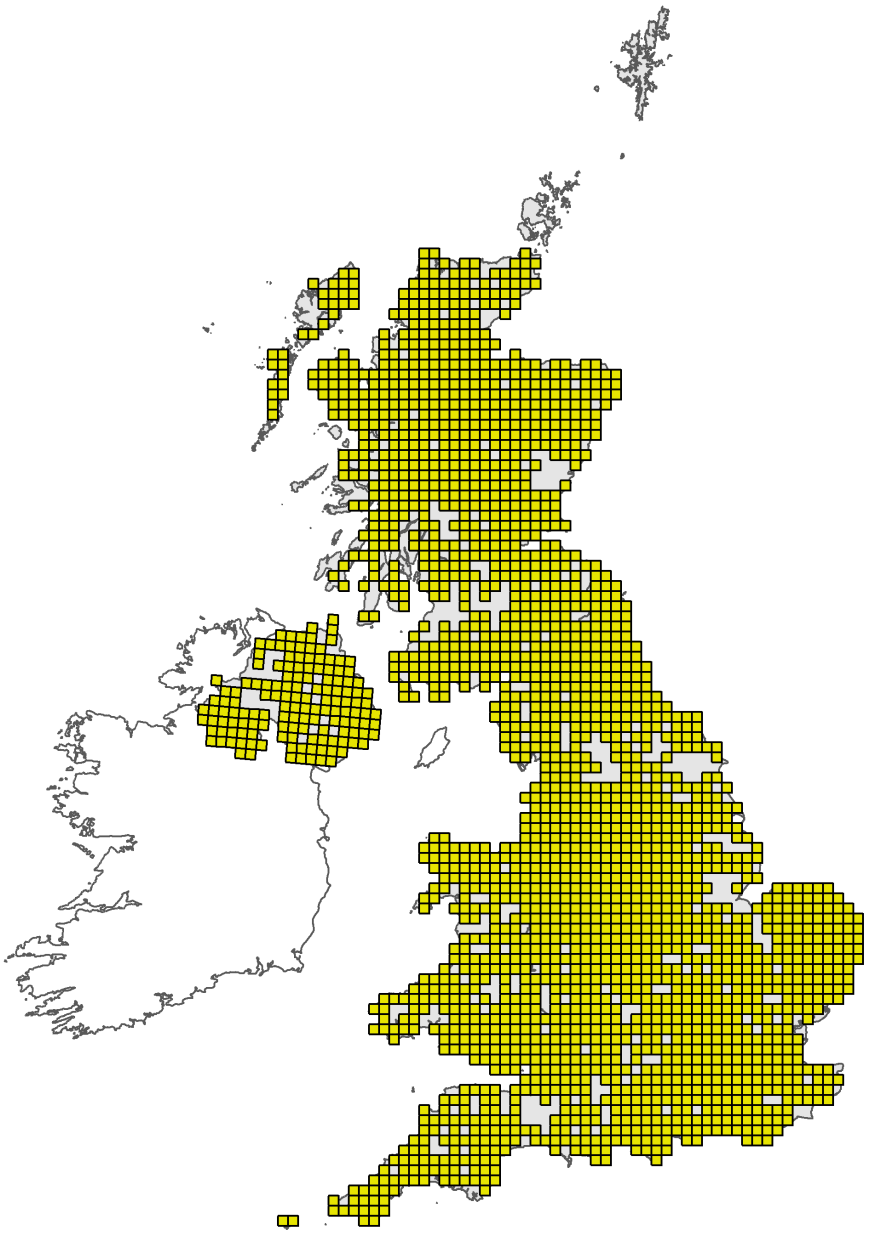

Figure 1: UK distribution map for S1213 - Common frog (*Rana temporaria*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 S1213 - Common frog (*Rana temporaria*). 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 35km. For further details see the 2019 Article 17 UK Approach document.

Explanatory Notes

Species name: Rana temporaria (1213)

Field label	Note
2.4 Distribution map; Method used	The data for this map comes from a very long-time span and is based on the assumption that the species is still present in previously recorded localities in many cases. Some Welsh data comes from the National Amphibian Survey (Swan & 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 & Arnell, 2011). There is no blanket survey data for Wales. Incidental records of frogspawn, tadpoles and adults are captured by Local Record Centres. The data sets held by Amphibian and Reptile Conservation Trust (ARC, formerly Herpetological Conservation Trust, HCT) have been used to construct the distribution map.

Species name: Rana temporaria (1213) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	Whilst local loss and gain may take place the overall short term trend in range is assumed to be stable.
5.11 Change and reason for change in surface area of range	Data points come from the records held by ARC and reflect the current known range of the common frog. Gaps in the distribution are not necessarily a true reflection of the distrbution of this species, merely a lack of records, and there is no reason to believe that there has been any significant change in it's distribution in Wales.
6.4 Additional population size	This figure was derived by mapping the 1km square records and is considered a minimum.
6.8 Short term trend; Direction	No evidence of any major change in population
6.16 Change and reason for change in population size	Note there is no comprehensive survey of this widespread amphibian- most data is derived from opportunistic or incidental records with very few coming from NARRS (Wilkinson & Arnell, 2011) the stratified long-term monitoring scheme which is no longer centrally funded. Other data from previous surveys (e.g Swann & Oldham, 1993) is now getting old.
7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)? YES/NO/Unknown - area = yes -quality = no data on which to determine habitat condition Overall = unknown b) If NO, is there a sufficiently large area of occupied & unoccupied habitat of suitable quality (to maintain the species at FCS)? YES/NO/Unknown sufficient occupied = sufficient unoccupied = Overall = N/A There is no evaluation of the quality of frog habitat on which to base an assessment, however it appears that the area of habitat is sufficient.
7.4 Short term trend; Direction	Unknown, but the apparent stability of the range and population data would suggest that the trend is stable.

8.1 Characterisation of pressures/ threats	Pressures: 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. A05: 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. L02: Succession of breeding ponds reduces habitat quality and availability. It generally relates to cessation of active pond management for agricultural purposes, or overgrowth of peri-urban sites. This leads to siltation and drying out and ultimately loss of the pond. L06: 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. This pressure best aligns to the recently established I05 category (plant and animal diseases, pathogens and pests) however this category isn't currently available for internal UK reporting purposes. I02: Invasive non-native plants (Crassula, in particular) and animals can impact on common frog populations. Plants have contributed to the physical reduction of aquatic habitat by overgrowth, but also impact habitat management schemes, due to the biosecurity risks it raises (Baker et al., 2011). Direct predation by INNS amphibians and transmission of disease all add additional pressures on frog populations (Baker et al., 2011). E01: Roads and other linear infrastructure cause severance of breeding and terrestrial habitat areas and if newly located next to breeding ponds cause direct mortality during the migrating season. 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). Threats: These threats all relate to common frogs in Wales and can be referenced to Baker et.al., 2011. A02: There is a continued threat from modification of agricultural practices in the form of intensification and grassland removal which causes terrestrial habitat loss and degradation and also impacts on aquatic habitats through loss and damage. A05: There is an ongoing threat from changing agricultural practices in the form of intensification, habitat modification, structural change which causes terrestrial and aquatic habitat loss, degradation and connectivity loss. This could accelerate due to future demands for increased food production or other changes to the current agri-environment regime. L02: There is still a threat to amphibian populations from succession of breeding ponds which reduces habitat quality and availability. It generally relates to cessation of active pond management for agricultural purposes, or overgrowth of peri-urban sites. This leads to siltation and drying out and ultimately loss of the pond. Further changes to the agricultural regimes could increase abandonment. L06: The continued threat from invasive alien species or deliberate release of them is of particular concern with regard to disease transmission. 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). Novel diseases, such as the recently discovered Batrachochytrium salamandrivorans may well impact a wider range of species than currently thought (Martel et al., 2013). This pressure best aligns to the recently established I05 category (plant and animal diseases, pathogens and pests) however this category isn't currently available for internal UK reporting purposes. I02: There is a continued threat from invasive non-natives- both plants and animals which can impact on common frog populations. Direct predation by INNS amphibians, transmission of disease or overgrowth of ponds by aquatic plant invasion all add additional pressures on frog populations (Baker et al., 2011). There are some invasive

	non-native plant species which are currently limited by winter temperatures. Climatic changes could result in an increased threat to breeding ponds from species such as Azolla and water hyacinth Eichhornia crassipes. E01: Continued construction or modification of linear infrastructure can cause severance of breeding and terrestrial habitat areas and if newly located next to breeding ponds cause direct mortality during the migrating season. 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).
10.1 Future prospects of parameters	10.1a Future prospects of -range. There is no reason to expect that the overall range of this widespread amphibian is likely to change in the next 12 years. However, without any comprehensive monitoring scheme, it is unlikely that we will be able to detect change. 10.1b Future prospects of -Population There is no reason to expect that the population of this widespread amphibian is likely to change in the next 12 years. However, without any comprehensive monitoring scheme, it is unlikely that we will be able to detect change. 10.1c Future prospects of -Habitat of the species Although it is likely that the amount of habitat for common frog will remain stable, I am not able to assess the quality of it and how that may change, so I am reporting this as unknown.