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:

S1013 - Geyer's whorl snail (*Vertigo geyeri*)

NORTHERN IRELAND

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 (Northern Ireland information only)**
1.2 Species code	**1013**
1.3 Species scientific name	**Vertigo geyeri**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Geyer's whorl snail

2. Maps

2.1 Sensitive species	No
2.2 Year or period	1994-2018
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

Anderson, R.A. (1996). Species inventory for Northern Ireland. Land and Freshwater Molluscs. Environment and Heritage Service, Research and Development Series.
Anderson, R., Long, M.P., Telfer, M.G., Mantell, A., Hart, A. (2017). Survey Report: Annex II species of Vertigo within Northern Ireland. Allen and Mellon Environmental, unpublished report.
Anderson, R., Long, M.P. (2016). Prospects and Requirements for Article 17 Reporting Round 2013-2018 on Vertigo geyeri, Vertigo angustior and Vertigo moulinsiana. Unpublished report.
Holyoak, G.A. (2003). Survey of rare Vertigo land-snail species in Northern Ireland, 2003. Unpublished report to the Environment and Heritage Service, Belfast.
Holyoak, G.A. (2005). Widespread occurrence of Vertigo geyeri (Gastropoda: Vertiginidae) in north and west Ireland. Irish Naturalists' Journal 28: 141-150.
Kerney, M.P. (1976). Atlas of the Non-marine Mollusca of the British Isles. Concological Society of Great Britain and Ireland.
Kerney, M. P., 1999 Atlas of Land and Freshwater Molluscs of Britain and Ireland. Harley Books.
Moorkens, E.A. & Killeen, I.J. (2011) Monitoring and Condition Assessment of Populations of Vertigo geyeri, Vertigo angustior and Vertigo moulinsiana in Ireland. Irish Wildlife Manuals, No. 55. National Parks and Wildlife Service, Department of Arts, Heritage and Gaeltacht, Dublin, Ireland.
Ross, H.C.G (1984). Catalogue of the Land and Freshwater Mollusca of the British Isles in the Ulster Museum. Ulster Museum, Belfast, Publication No. 251.

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

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	2013-2018	
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	9
6.3 Type of estimate	Best estimate	
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on extrapolation from a limited amount of data	
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Uncertain (u)	
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval	
6.10 Short-term trend Method used	Insufficient or no data available	

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

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	Insufficient or no data available	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Unknown (x)	
7.5 Short-term trend Method used	Insufficient or no data available	
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
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	M
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	H
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Modification of hydrological flow (K04)	M

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
Flooding (natural processes) (M08)	M

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	M
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	H
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Modification of hydrological flow (K04)	M
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
Flooding (natural processes) (M08)	H

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		Maintain the current range, population and/or habitat for the species
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

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)
Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation (CB01)
Reduce impact of outdoor sports, leisure and recreational activities (CF03)
Reduce impact of other specific human actions (CH03)
Reduce impact of mixed source pollution (CJ01)
Implement climate change adaptation measures (CN02)

9.6 Additional information	

10. Future prospects

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	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	3
12.2 Type of estimate	Best estimate	
12.3 Population size inside the network Method used	Based mainly on extrapolation from a limited amount of data	
12.4 Short-term trend of population size within the network Direction	Unknown (x)	
12.5 Short-term trend of population size within the network Method used	Insufficient or no data available	

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

12.6 Additional information

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Distribution Map

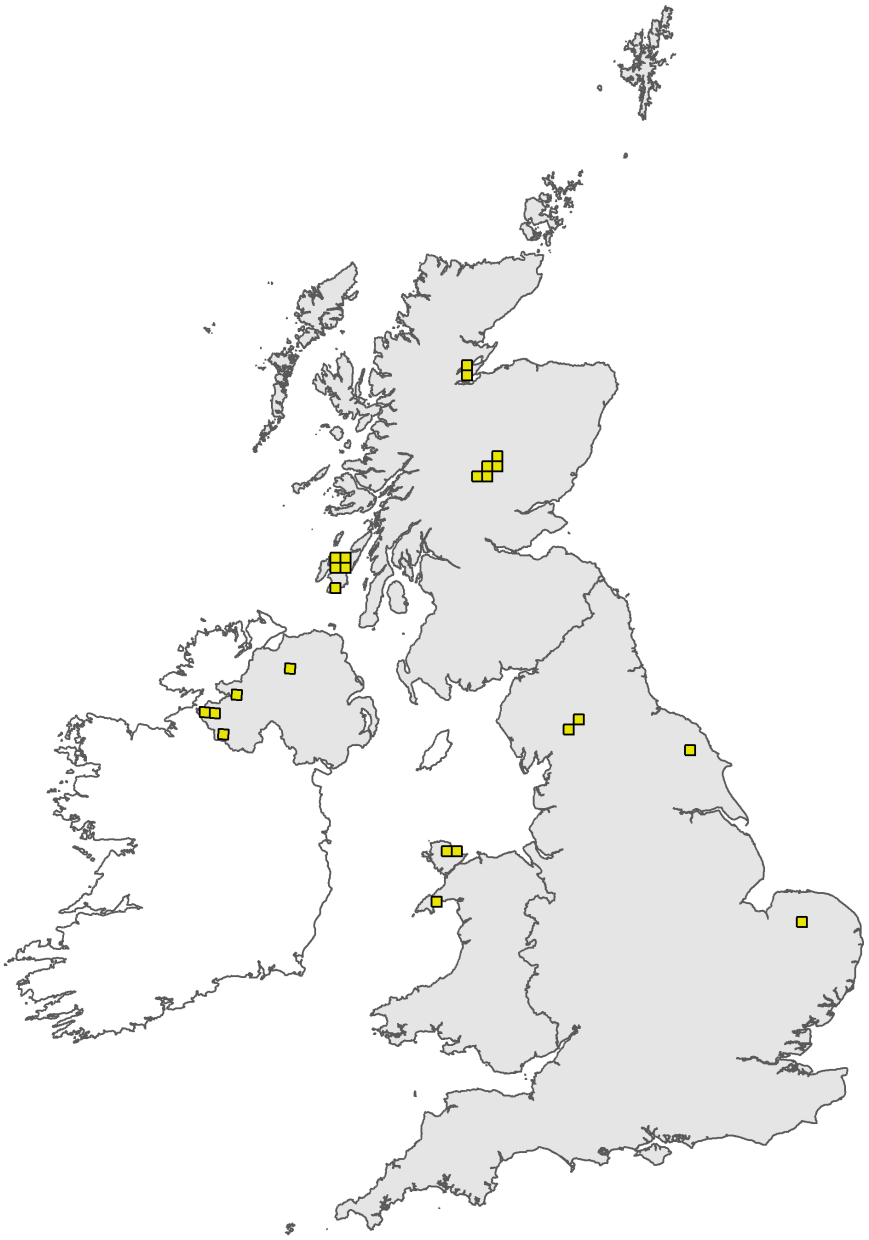

Figure 1: UK distribution map for S1013 - Geyer's whorl snail (*Vertigo geyeri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

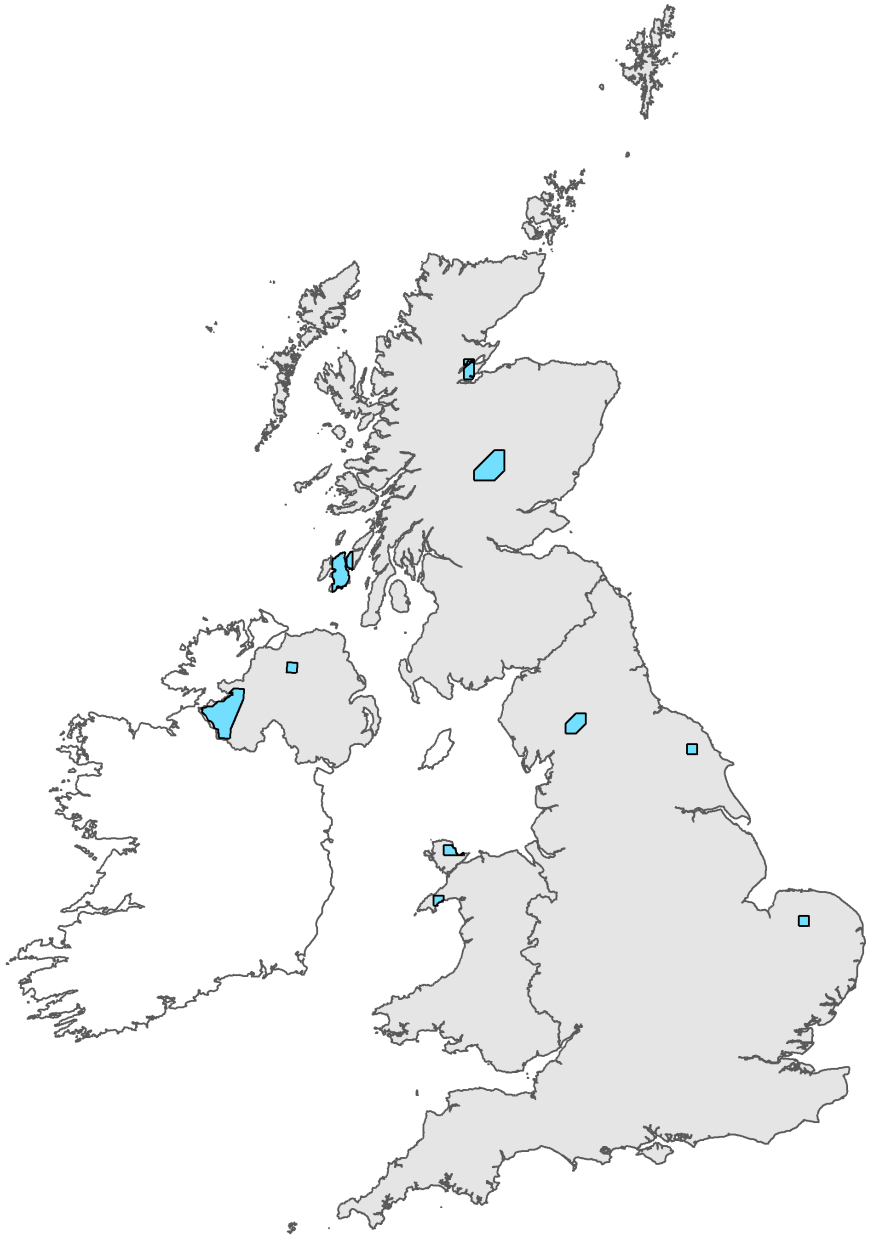

Figure 2: UK range map for S1013 - Geyer's whorl snail (*Vertigo geyeri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.

Explanatory Notes

Species name: Vertigo geyeri (1013) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	Short term trend (1994 to 2018) assessed as stable. Prior to 1999, the species was considered to be extinct in NI (Anderson, 1996) with relict populations restricted to the midlands of Ireland (Kerney 1976; 1999; Ross, 1984). However, the species was \'re-discovered\' opportunistically during bryophyte surveys undertaken between 1999 and 2000 (Holyoaks, 2005). A subsequent widening of this work revealed further records of the species in NI (Holyoak, 2003; 2005). This remained the only body of work on the distribution of the species in NI until 2015 when sites originally identified by Holyoak were re-surveyed (Anderson & Long, 2016). Subsequent work in 2016 and 2017 involved surveying of locations with suitable habitat for the species (Anderson et al., 2017). The apparent increase in range over the period is believed to be due to an increase in recording effort, rather than an increase in the species' range.
5.11 Change and reason for change in surface area of range	Change and reason for change in surface area of range reported as no. Note that the 2013 Report included a figure of 21 for surface area range (i.e. 21 occupied 1x1 km squares), but this was an error.
5.12 Additional information	Range derived from two NIEA commissioned surveys. A pilot undertaken in 2016 that involved re-surveying sites the species had been recorded historically (see Anderson and Long,(2016)). This was followed by a wider survey in 2017 that involved surveying of sites considered suitable for the species but where it had not been recorded previously (See Anderson et al., (2017)).
6.8 Short term trend; Direction	Short-term trends, for the period stated, is unknown as surveys for the species have only been undertaken in 2000 and 2016/17. Therefore, as monitoring has not occurred at other points in this period it is impossible to comment on short-term trends in the NI population.
6.12 Long term trend; Direction	Recent surveys have failed to find the species within 4 x 1km squares where it was recorded historically. This is either due to species not being detected or represents a genuine loss of the species from these localities. Insufficient data to make any comment on long-term trend.
6.16 Change and reason for change in population size	Change and reason for change in population size reported as no. Note that the 2013 Report included a figure of 21 occupied 1x1 km squares, but this was an error.
6.17 Additional information	The NI reported population has apparently decreased from 21 (in the 2013 report) to 9 (current report). However, the figure of 21 from 2013 was an error. The reported value for this report reflects the correct situation. The species has been recorded from a maximum of 13 1km squares over the 4 reporting periods. These occur in 8 10km squares. In the current reporting round (2013-2018) the species has been recorded in 9 1km squares which occur in 5 10 km squares
7.1 Sufficiency of area and quality of occupied habitat	Unknown stated as it is unclear what the long-term requirements of the species are, beyond flushes. It is not known how the species use this habitat.
8.1 Characterisation of pressures/ threats	Identification of threats and pressures faced by the species was derived - in part - from an exercise where experts (n=7) were asked to rank the importance of threats and pressures, reported in the previous assessment. A total of 7 species experts participated in the exercise. Additional threats and pressures added based upon NIEA knowledge of individual sites where the species has been recorded from in NI.
9.5 List of main conservation measures	This list has been identified based on the results of the threats and pressures assessment undertaken with species experts. A total of 5 experts contributed to this part of the exercise.

10.1 Future prospects of parameters	Generally recorded as Unknown as there is insufficient data on the species' range, population and habitat preferences to make a definitive assessment. Given the lack of knowledge on population cycles of the species, it is unclear how V. angustior would respond to changes in hydrological conditions driven by direct human action or climate change. As a result the species' prospects for the future, without management action, are unknown.
10.1 Future prospects of parameters	Generally recorded as Unknown as there is insufficient data on the species' range, population and habitat preferences to make a definitive assessment. Although the species still occurs in locations not surveyed for over 15 years, its continued occurrence in at least some of these locations may not be due to direct conservation action. The remoteness and location of the habitats occupied by V. geyeri may, in part, explain their survival. Therefore, it could be argued that as long as there is no change to the habitats in which it occurs, the species will continue to exist in these locations. However, given the lack of knowledge on population cycles of the species, it is unclear how the species would respond, locally, to changes in hydrological conditions driven by direct human action or climate change. As a result the species' prospects for the future, without management action, are unknown.
12.1 Population size inside the pSCIs, SCIs and SACs network	Species recorded at Cuilcagh Mountain and Monawilkin SACs in Co Fermanagh.