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:

S1015 - Round-mouthed whorl snail (*Vertigo genesii*)

SCOTLAND

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 (Scotland information only)**
1.2 Species code	**1015**
1.3 Species scientific name	**Vertigo genesii**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Round-mouthed whorl snail

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2012-2017
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

Killeen, I., M. Willing & E. Moorkens. 2018b. Monitoring of Vertigo snail features at sites in Scotland: Vertigo geyeri and Vertigo genesii. Scottish Natural Heritage report.
Killeen, I.J. 2013b. Whorl snails (Vertigo spp.) surveillance in Scotland: a condition assessment of Geyer's whorl snail Vertigo geyeri, and the round-mouthed whorl snail Vertigo genesii in Perthshire and the Black Isle. Scottish Natural Heritage Report.
Littlewood, N.A. & Stockan, J.A. 2012. Surveillance of priority terrestrial invertebrates in Scotland. SNH report.
MIDAS - Management Information on Designated Areas in Scotland (SNH)
Pokryszko, B.M. 1990. The Vertiginidae of Poland (Gastropoda: Pulmonata: Pupiloidea) - a systematic monograph. Annales Zoologici 43: 133-257.
Pokryszko B.M. 1987. On the aphally in the Vertiginidae (Gastropoda: Pulmonata: Orthurethra). Journal of
Conchology 32, 365-376.
Killeen, I.J. 2010. Condition Monitoring of Vertigo genesii in Moor House-Upper Teesdale NNR/SAC. Northumbrian Water and Natural England.
Moorkens, E. 2011. Vertigo genesii. The IUCN Red List of Threatened Species 2011: e.T22936A9399069

5. Range

5.1 Surface area (km²)

5.2 Short-term trend Period

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

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	2017	
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	2012-2017	
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	

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

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)?	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	2012-2017	
7.4 Short-term trend Direction	Stable (0)	
7.5 Short-term trend Method used	Based mainly on expert opinion with very limited 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
Intensive grazing or overgrazing by livestock (A09)	M
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Active abstractions from groundwater, surface water or mixed water for agriculture (A30)	M
Drainage for use as agricultural land (A31)	M
Modification of hydrological flow or physical alteration of water bodies for agriculture (excluding development and operation of dams) (A33)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	M

Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Active abstractions from groundwater, surface water or mixed water for agriculture (A30)	M
Drainage for use as agricultural land (A31)	M
Modification of hydrological flow or physical alteration of water bodies for agriculture (excluding development and operation of dams) (A33)	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		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		Short-term results (within the current reporting period, 2013-2018)

9.5 List of main conservation measures

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)
Manage drainage and irrigation operations and infrastructures in agriculture (CA15)

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

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

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	6
12.2 Type of estimate	Minimum	
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	Uncertain (u)	
12.5 Short-term trend of population size within the network Method used	Based mainly on extrapolation from a limited amount of data	
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

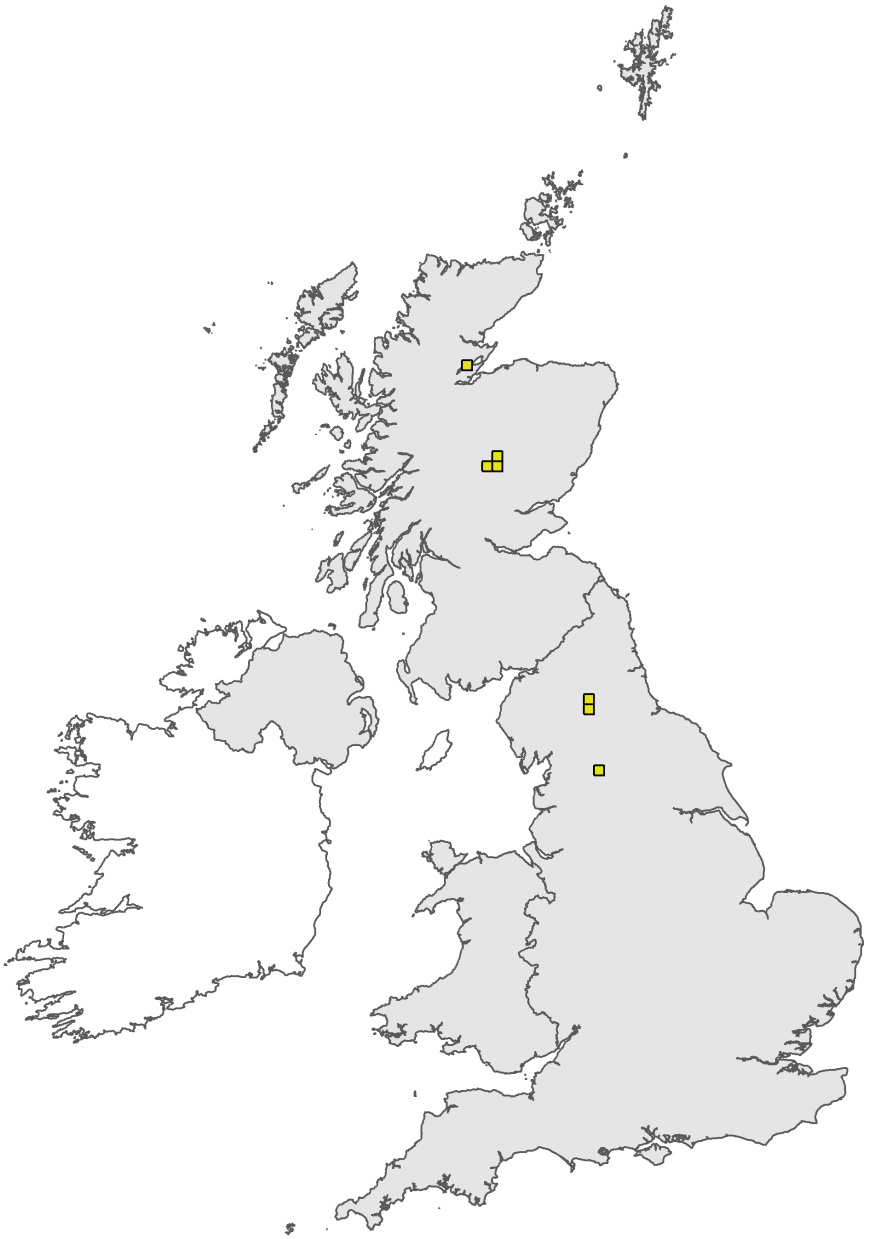

Figure 1: UK distribution map for S1015 - Round-mouthed whorl snail (*Vertigo genesii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 S1015 - Round-mouthed whorl snail (*Vertigo genesii*). 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 genesii (1015) Region code: ATL

Field label	Note
5.7 Long term trend; Direction	There has been little change in habitat area from 2012 to 2017, with small differences more likely to arise from measurement errors rather than true range and population expansions or contractions (Killeen, 2013b, Killeen et al 2018b).
6.8 Short term trend; Direction	The populations of this species appear to be stable where they have been monitored (Killeen 2010).
6.17 Additional information	Vertigo species are known to undergo large annual fluctuations in population size and the peak breeding period varies considerably from year to year (Pokryszko 1990). The ability of Vertigo species to self-fertilise significantly increases the probability of survival. By self-fertilisation, the low numbers of individuals are able to reconstruct or restore a population in a few weeks, and a single coloniser is able to establish a new population (Pokryszko 1987). Given the range of protected sites where this species is present, with appropriate site management, the species should no longer be at risk of extinction (Moorkens 2011).
7.9 Additional information	The area of suitable habitat (permanently wet, base-rich) can often be small, no more than a few square metres (Killeen, 2013b).
8.1 Characterisation of pressures/ threats	Hydrological instability is the major cause of declines and losses of V. genesii populations (Killeen, 2013b, Killeen et al 2018b).
10.2 Additional information	There are no Scottish sites unique to Vertigo genesii, it has always been found with V. geyeri. Therefore, assessments for both species are concurrent (Killeen, 2013b, Killeen et al 2018b).