# 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*)**

ENGLAND

## 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 (England 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 | 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

Article 17 Survey Population & Condition Assessment of Vertigo angustior and Vertigo geyeri at three sites in north Norfolk. 2016, Abrehart Ecology. Report to Natural England.
MJ Willing . 2015. Surveillance of Populations of the Sandbowl Snail Quickella arenaria in Cumbria - Autumn 2015. Report to Natural England
Terry J. Crawford 2014. Conchological survey of Ellers Springs (Sand Dale, Dalby Forest) carried out on 19 September 2014. Site survey report copied to natural England.
Killeen. I.J. 2017. A condition assessment of Vertigo geyeri at Stagmire moss, Cumbria. Malacological Services report to Natural England.

## 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

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

| | | |
|---|---|---|
| 5.10 Favourable reference range | a) Area (km²)<br>b) Operator<br>c) Unknown<br>d) Method | |
| 5.11 Change and reason for change in surface area of range | Genuine change<br>Improved knowledge/more accurate data<br>The change is mainly due to: | Improved knowledge/more accurate data |
| 5.12 Additional information | Vertigo geyeri at Wybunbury Moss NNR has not been re-found in subsequent survey, and is either lost or the record was in error. Given the reported community differences, error seems most likely now. | |

## 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 | 5 |
| | c) Maximum | 6 |
| | d) Best single value | 6 |
| 6.3 Type of estimate | Best estimate | |
| 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 | 4 |
| 6.5 Type of estimate | Best 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<br>b) Maximum<br>c) Confidence interval | |
| 6.10 Short-term trend Method used | Complete survey or a statistically robust estimate | |
| 6.11 Long-term trend Period | 1995-2018 | |
| 6.12 Long-term trend Direction | Decreasing (-) | |
| 6.13 Long-term trend Magnitude | a) Minimum<br>b) Maximum<br>c) Confidence interval | |
| 6.14 Long-term trend Method used | | |

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

| | |
|---|---|
| 6.15 Favourable reference population (using the unit in 6.2 or 6.4) | a) Population size<br>b) Operator<br>c) Unknown<br>d) Method |
| 6.16 Change and reason for change in population size | Genuine change<br>Improved knowledge/more accurate data<br>The change is mainly due to: Improved knowledge/more accurate data |
| 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)? | No |
| | b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)? | No |
| 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 | Decreasing (-) | |
| 7.5 Short-term trend Method used | Based mainly on extrapolation from a limited amount of data | |
| 7.6 Long-term trend Period | 1995-2018 | |
| 7.7 Long-term trend Direction | Stable (0) | |
| 7.8 Long-term trend Method used | Based mainly on extrapolation from a limited amount of data | |
| 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) | H |
| Intensive grazing or overgrazing by livestock (A09) | M |

| Threat | Ranking |
|---|---|
| Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06) | H |
| Intensive grazing or overgrazing by livestock (A09) | M |

| | |
|---|---|
| 8.2 Sources of information | |
| 8.3 Additional information | |

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

## 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 | | Restore the habitat of the species (related to '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

Adapt mowing, grazing and other equivalent agricultural activities (CA05)

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

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

| | | |
|---|---|---|
| 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 | | Complete survey or a statistically robust estimate |
| 12.4 Short-term trend of population size within the network Direction | | Stable (0) |
| 12.5 Short-term trend of population size within the network Method used | | Complete survey or a statistically robust estimate |
| 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

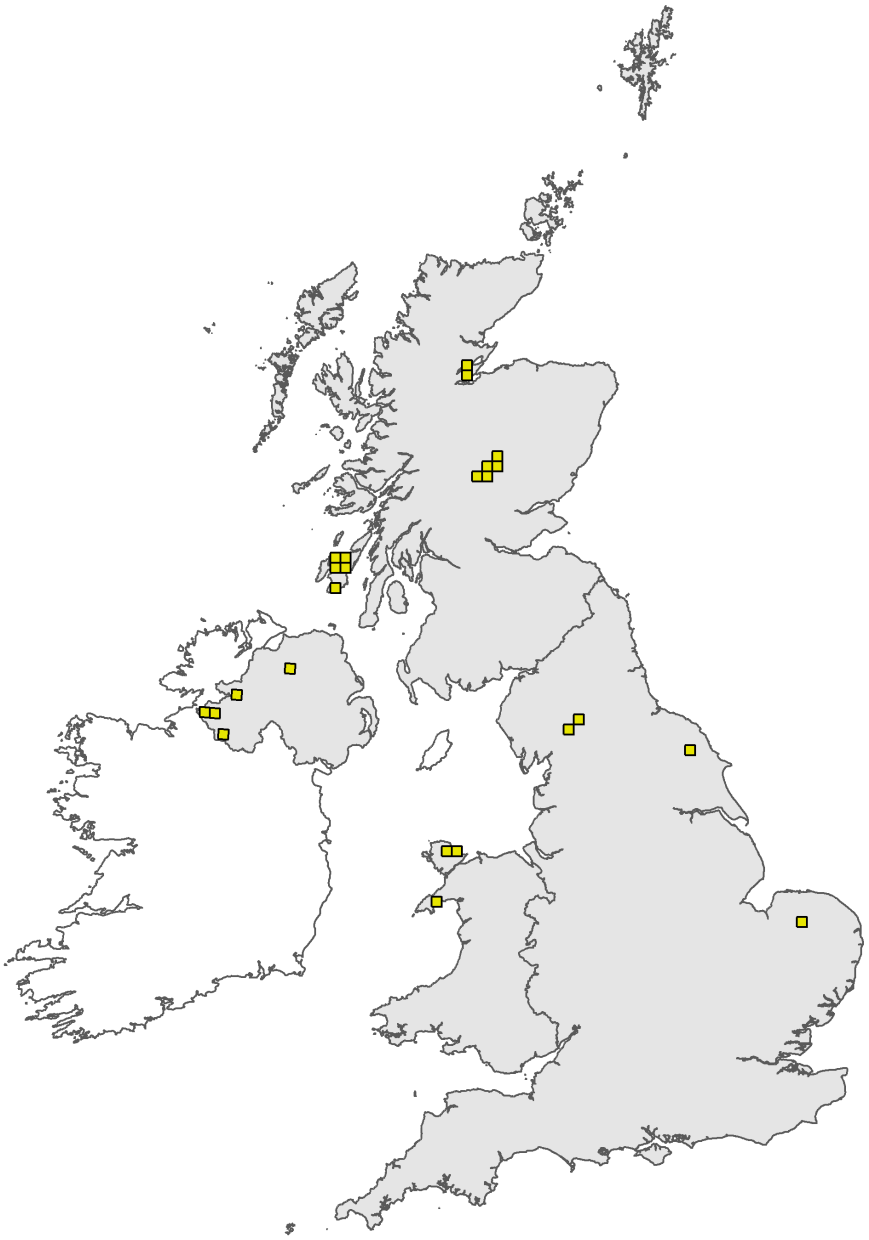

Figure 1: UK distribution map for S1013 - Geyer's whorl snail (*Vertigo geyeri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

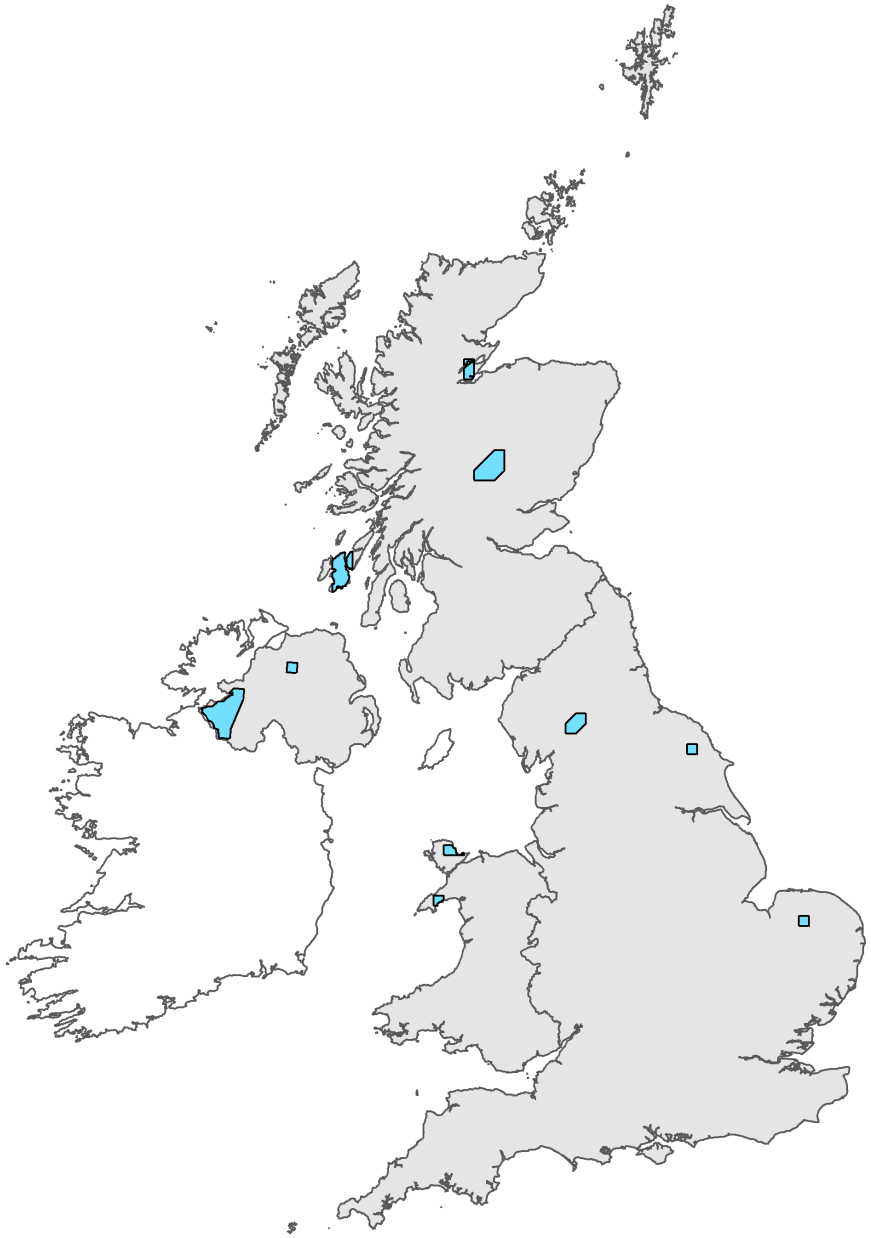

Figure 2: UK range map for S1013 - Geyer's whorl snail (*Vertigo geyeri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 |
|---|---|
| 6.2 Population size | This includes the monad for Helbeck wood, in that the site is considered stable even though survey access was denied for the 4th report. The value of one below the 3rd report reflects the removal of the Wybunbury monad. |
| 6.8 Short term trend; Direction | Excluding the Wynbunbury record, which is now considered an error, the situation has remained fairly stable. The grazing regime on Jugger howe continues to present problems with getting adequate flush grazing, so geyeri must continue either to be lost or barely present there. It continues at Sand Dale, and at Potts Valley and Sunbiggin Tarn site complex. It was not found at Scarning fen, though this may have been a consequence of a population low rather than localised extinction. It requires more assessment at that site as it has undergone a range of mangement options over the short term trend period, and this will not have favoured geyeri, especially with the low population levels noted in the 3rd report. Attempts were made to access the MOD-owned Helbeck wood to survey its lateral flushes, but this has not been possible because of operational military restrictions. However, the nature of the site as an upland flush system suggests long term stability there. |
| 6.17 Additional information | Correction has been applied to the 3rd report in that the Wybunbury Moss NNR site has not had its population refound, and so should be removed from the assessment, hence the drop in coverage. Though not recorded at Scarning Fen in the 4th period, the long history of geyeri there suggests low detectability rather than loss of this population. Both Sand Dale and the Sunbiggen Tarn complex remain relatively strong. Overall, there feels like a small scale decrease in population strength, out with the Wybunbury issues. |
| 7.2 Sufficiency of area and quality of occupied habitat; Method used | Habitat area was more carefully assessed and focused on the known flush areas than previous assessments. At all sites: The moisture of the ground at each site was assessed using the following wetness scale: 1. ground dry, possibly with crack and no evidence of surface moisture; 2. ground damp, moisture observed on the surface but water does not rise under light pressure; 3. ground wet, no surface veneer, but water rises under light (foot) pressure; 4. ground Wet, surface veneer of less than 1-2cm deep; and 5. ground very wet, water depth greater than 2cm, may cover the sward and tussocks. |
| 7.4 Short term trend; Direction | With continuing difficulties in getting the small flushes at Jugger howe grazed, continuing issues at Scarning Fen, and the northern parts of Tarn Moor under-grazed, the trend is one of slight decline in habitat quality in the short term period. The area of habitat remains good, for such an intrinsically rare habitat type as it is, but it does suffer from the vagaries of management. This snapshot does need to be placed into the longer term context of stock management on these sites, and this is likely to be a minor blip in the overall history of the colonies. The range looks stable however and the population might be low but stable- trying to decide if the species has ben lost or retreated to a continued low population level is hard on the larger sites. Elsewhere, such at Potts valley, the population seems generally more stable within the vagaries of mollusc population dynamics. |
| 7.9 Additional information | The overall trend line is probably one of stability, though with much variation over the years. Sand dale was beset with scrub, but this was cleared, Jugger Howe was more heavily grazed, but now is less so, Scarning Fen has seen better days, and the Cumbrian sites have always been subject to variable grazing pressures. But generally, they all pretty much persist through this, and continue to suport geyeri populations. |

| | |
|---|---|
| 8.3 Additional information | Generically, this species is particularly subject to grazing pressure impacts, though seems to be able to persist through the adverse phases. Under-grazing is more damaging than over-grazing, as the supporting flushes need to be open, and the snail can survive in pockets that are not poached by stocked. It is very hard to maintain entirely optimal conditions, given the vagaries of stock movement, stocking density, and desire of stock to reach the flushes or to spend too much time around them. It remains to be seen, post Brexit, how upland sites fare with respect to stock types and levels, and whether stocking reductions end up compromising some of these flush systems. |
| 9.6 Additional information | The SSSI boundary at Potts Valley ough to be extended to cover the populations just outside of it. Much work has been forthcoming on trying to secure habitat improvements, and Stagmire Moss is looking better though remains unfavourable. This site is hard to manage as the central flush section becomes either poached or overgrown. The Area team has worked on this site with the owner to improve the situation. |
| 12.6 Additional information | Since it is not considered that the species is extinct at Scarning fen, the monad count remains as it was at the 3rd report, though it is likely that the species is at a low point there; whether this short term position will continue is unknown. It remains strong at the Asby flush series, and the scrub clearance works at Sand dale have secured that population, so the overall trend is more one of stability than decline. |
| 12.6 Additional information | Reporting on the complete condition of Sand Dale was compromised by the untimely death of the surveyor, though he did report that geyeri was present, and that \'the site appears still to be in favourable condition though there is not as much open flush as previously seen\' (Crawford, 2014). This was the earlier issue here, with previous scrub having been pushed back. Nevertheless, the site appears to be in good condition in this reporting period. At Scarning Fen, geyeri could not be located, suggesting a population low at this site (Abrehart, 2016). This may be a reflection of the ongoing grazing and hydrological integrity issues at this site, as noted in the 3rd report. It seems unlikely that the species has been lost here, but rather reached a population low. At the Tarn moor complex, Willing (2015), as an adjunct to the Quickella population survey, looked at Vertigo geyeri, as they largely share the same habitat and requirements. The northern Tarn moor flushes are judged to be unfavourable because of the lack of grazing pressure, whilst the larger southern site are favourable. The species has presence at the Potts valley site, though some sub-populations of both geyeri and Quickella lie outside of the SSSI/SAC boundary as currently defined. Both species sit within a rich mollusc community here. The current grazing issues at a number of the SAC, and the boundary issues suggest some decline in quality here, though it is probably a reversable one. The measure of population does not properly capture the pressure on the populations, so though the measure if constant, the real picture is of some decline within that measure though it is probably not significant unless it continues. |