

**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:

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

IMPORTANT NOTE – PLEASE READ

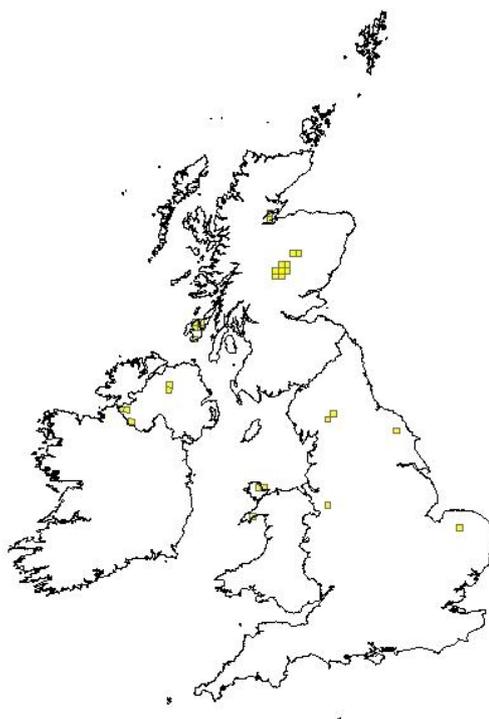
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers only to the state of the habitat/species in **England** - it does not constitute an assessment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

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> | |
|--------------------|--|------------------------------|
| 0.2 Species | 0.2.1 Species code | S1013 |
| | 0.2.2 Species scientific name | <i>Vertigo geyeri</i> |
| | 0.2.3 Alternative species scientific name Optional | |
| | 0.2.4 Common name Optional | Geyer's whorl snail |

1.1 Maps

| | | | |
|-------------------------------|--|------------------|--------------|
| 1.1.1 Distribution map | | Sensitive | False |
|-------------------------------|--|------------------|--------------|



| | |
|--|---|
| 1.1.2 Method used - map | Complete survey/Complete survey or a statistically robust estimate |
| 1.1.3 Year or period | 2007-2012 |
| 1.1.4 Additional distribution map | False |
| 1.1.5 Range map | |

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| 2.1 Biogeographical region & marine regions | ATL |
| 2.2 Published sources | <p>"Abrehart Ecology (2010). Article 17 Reporting cycle on Vertigo geyeri at Sand Dale SSSI/SAC and Jugger Howe Moor (North York Moors SSSI) August 2010. An ecological survey including floral and fauna observations undertaken for Natural England by Abrehart Ecology.</p> <p>Ian J Killeen, (2010) A CONDITION ASSESSMENT OF VERTIGO GEYERI IN SUNBIGGIN TARN & MOORS, CUMBRIA, MALACOLOGICAL SERVICES.</p> <p>Dr. M. J. Willing (2010) Monitoring populations of Vertigo angustior and Vertigo geyeri in Norfolk, 2010. Natural England commissioned report.</p> <p>Joint Nature Conservation Committee. 2007. Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006. Peterborough: JNCC. Available from: www.jncc.gov.uk/article17"</p> |

| | |
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| 2.3 Range | |
| 2.3.1 Surface area Range | <p>7</p> <p>The reduction from the previous figure of 11 occupied 1km squares arises from the loss of the site at Jugger Howe, though whether this large hillside's Vertigo habitat really covers the 2 x 1km squares it is given in the records is debatable. The losses here seem to stem from a reduction in grazing pressure on the hill, and subsequent over-growth on the flushes. However, the survey across the hill was not made, so it is possible that parts of the population have survived this impact. The position of grid references taken across the extensive flushed valley system at Sunbiggin Tarn and Potts valley would also account for a "reduction" though this is not real as the population on all 3 sub-sites there are strong. So at least part of the change is a mapping artifact.</p> |
| 2.3.2 Method used Surface area of Range | Complete survey/Complete survey or a statistically robust estimate |
| 2.3.3 Short-term trend Period | 2001-2012 |
| 2.3.4 Short term trend Trend direction | decrease 1% or less/year |
| 2.3.5 Short-term trend Magnitude | A reflection of the loss of range at Jugger Howe even though the population was likely to have been small there |
| 2.3.5 Short-term trend Magnitude | a) Minimum |

| | | |
|---|--|--------------|
| | b) Maximum | |
| | | |
| 2.3.6 Long-term trend Period | 1991-2012 | |
| | Asides from the partially surveyed Jugger Howe, where the species was not found, the only other location within this period is the seemingly atypical Eastington lagoon site, which has not since been re-surveyed. Notwithstanding,. It is considered that a stable trend reflects the overall situation. | |
| 2.3.7 Long-term trend Trend direction | stable | |
| | | |
| 2.3.8 Long-term trend Magnitude | a) Minimum | |
| Optional | | |
| | b) Maximum | |
| | | |
| 2.3.9 Favourable reference range | a) Value in km² | |
| | | |
| | b) Operator for FRR | |
| | | |
| | c) FRR is unknown (indicated by "true") | False |
| | | |
| | d) Method used to set FRR | |
| | | |
| 2.3.10 Reason for change | a) Genuine change? | True |
| Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to... | | |
| | b) Improved knowledge/more accurate data? | False |
| | | |
| | c) Use of different method (e.g. | False |

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| | "Range tool"?) | |
| | | |

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| 2.4 Population | | |
| 2.4.1 Population size estimation (using individuals or agreed exceptions where possible) | a) Unit | |
| | b) Minimum | |
| | c) Maximum | |
| | | |
| 2.4.2 Population size estimation (using population unit other than individuals) Optional (<i>if 2.4.1 filled in</i>) | a) Unit | number of map 1x1 km grid cells |
| | b) Minimum | 7 |
| | c) Maximum | 7 |
| | | |
| 2.4.3 Additional information on population estimates / conversion Optional | a) Definition of "locality" | |
| | b) Method to convert data | |
| | c) Problems encountered to provide population size estimation | |
| | | |
| 2.4.4 Year or period | 2007-2012 | |
| | | Within that period no NBN data were submitted, so the recent surveys represent the totality of the dataset. |
| 2.4.5 Method used Population size | Complete survey/ Complete survey or a statistically robust estimate | |
| 2.4.6 Short-term trend Period | 2001-2012 | |
| | | |
| 2.4.7 Short-term trend Trend direction | increase | |
| | | The finding of <i>V. geyeri</i> at a flush on Wybunbury Moss NNR increases the range of this species, and the new surveys at Helbeck wood, Stagmire Moss and the other, better known sites, confirms that it remains as having good to adequate populations. <i>Vertigo geyeri</i> was found at all eight sample sites in Eller's Wood and Sand Dale SSSI/SAC, in total 300 specimens were found in the samples equating to up to |

| | | |
|---|---|--|
| | <p>2000 animals per square metre in the ideal conditions of Site 1. This is a substantial improvement in site condition from recent years. The very small <i>V. geyeri</i> population living at Scarning Fen is judged to be in favourable condition, though adverse grazing impacts were noted at the time of the survey. The baseline condition assessment at Sunbiggin Tarn and Moors can be determined by how well the site meets the key targets for the attributes associated with this species. The habitat throughout the site is in good condition for <i>Vertigo geyeri</i>, and the snail is present on the transects and at other locations in good numbers. The overall assessment is Favourable. The marginal population found on Jugger Howe now seems to have been lost, mainly through a cessation of grazing leading to the small flushes becoming over-grown. <i>V.geyeri</i> was only known from a single individual on this site from 1997, and the stream flush system is small, so it is unlikely it was ever able to support a very large population. A positive trend direction thus seems, on balance, appropriate.</p> | |
| <p>2.4.8 Short-term trend Magnitude</p> | <p>a) Minimum</p> | |
| | | |
| | <p>b) Maximum</p> | |
| | | |
| | <p>c) Confidence interval</p> | |
| <p>2.4.9 Short-term trend Method used</p> | <p>Complete survey/Complete survey or a statistically robust estimate</p> | |
| <p>2.4.10 Long-term trend – Period</p> | | |
| <p>2.4.11 Long-term trend Trend direction</p> | | |
| <p>2.4.12 Long-term trend Magnitude Optional</p> | <p>a) Minimum</p> | |
| | | |
| | <p>b) Maximum</p> | |
| | | |
| | <p>c) Confidence</p> | |

| | | |
|---|---|--------------|
| | interval | |
| | | |
| 2.4.13 Long term trend Method used | | |
| | | |
| 2.4.14 Favourable reference population | a) Number of individuals/agreed exceptions/other units | |
| | | |
| | b) Operator | |
| | | |
| | c) FRP is unknown indicated by "true" | False |
| | | |
| | d) Method used to set FRP | |
| | | |
| 2.4.15 Reason for change Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to: | a) Genuine change? | False |
| | | |
| | b) Improved knowledge/more accurate data? | True |
| | | |
| | c) Use of different method (e.g. "Range tool")? | False |
| | | |

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| 2.5 Habitat for the species | |
| 2.5.1 Area estimation | 3.2 Summed unit areas of the SSSI in which the species is known to occur. There is thought to be a sufficient amount of habitat in the UK to support a viable population of the species. |
| | |
| 2.5.2 Year or period | 2007-2012 |
| | |
| 2.5.3 Method used Habitat for the species | Complete survey/Complete survey or a statistically robust estimate |
| | |

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| 2.5.4 Quality of the habitat | a) Habitat quality | Good |
| | <p>Condition of the <i>Vertigo geyeri</i> population and its habitat at the Sunbiggin Tarn and Moors part of the Asby Complex SAC was carried out by measuring environmental variables and snail numbers at intervals along four linear transects (3 at Tarn Moor, 1 in Potts Valley), and in four 5m x 5m plots (3 at Tarn Moor, 1 in Potts Valley).</p> <p>At Eller's Wood & Sand dale:</p> <p>Quadrats were used to provide information on vegetation composition throughout a (desirably uniform) stand of vegetation around the mollusc sample sites. Depending on the records made (here species present were specified), they can take less time than more detailed records typically made in permanent plots. Here, frequency determinations were made on a compartment basis.</p> <p>In this "sample site specific survey", the emphasis was on covering the area immediately around the mollusc sample sites and detecting as many of the species as possible. At each site chosen by the surveyor for detailed works a minimum of 10 minutes was spent to record all within an area of one metre from the centre point. This time was to focus the surveyor's attention at intervals on the whole ecosystem cross-section and to ensure that as much of value was found in the limited time available. Similar assessments were made at the other <i>geyeri</i> sites.</p> | |
| | b) Assessment method | <p>Habitat area was more carefully assessed and focused on the known flush areas than previous assessments.</p> <p>At all sites: The moisture of the ground at each site was assessed using the following wetness scale:</p> <ol style="list-style-type: none"> 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. |
| 2.5.5 Short-term trend Period | 2001-2012 | |
| 2.5.6 Short-term trend Trend direction | increase | |
| | <p>A reflection of the land management actions on some of the sites which have reversed the fortunes of the sites over the past 10 years. This is certainly the case at Eller's Wood & Sand Dale, which was suffering from scrub incursion onto the flushed grassland areas, and too high a sward</p> | |

| | | |
|---|--|--------------|
| | height. | |
| 2.5.7 Long-term trend Period | | |
| 2.5.8 Long-term trend Trend direction | similar argument as posited at 2.4.7 above. | |
| 2.5.9 Area of suitable habitat for the species | a) Value in km² | 1.47 |
| | Measurement of the SSSI units it occupies and/or measurement of bounding polygons around the main flush areas, which comes to 147.77 hectares of flushed habitat. Surface habitat area derived from SSSI unit summation, whilst area of suitable habitat is more on survey data area estimates and roughly mapped assessment. | |
| | b) Absence of data indicated as '0' | |
| 2.5.10 Reason for change Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to | a) Genuine change? | True |
| | b) Improved knowledge/more accurate data? | True |
| | a more map based assessment attempting to more accurately ascertain the flush feature areas on which this species has a dependency. | |
| | c) Use of different method (e.g. "Range tool")? | False |

| 2.6 Main pressures | | |
|--|--|-------------------------------|
| a) Pressure | b) Ranking | c) Pollution qualifier |
| | H = high importance M = medium importance L = low importance | |
| A04: grazing | H | |
| J02: human induced changes in hydraulic conditions | M | |
| | | |

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| 2.6.1 Method used – Pressures | based exclusively or to a larger extent on real data from sites/occurrences or other data sources |
| | |

| 2.7 Threats | | |
|------------------------------------|--|------------------------|
| a) Threat | b) Ranking | c) Pollution qualifier |
| | H = high importance M = medium importance L = low importance | |
| M01: Changes in abiotic conditions | H | |
| A04: grazing | M | |
| | | |

| | |
|------------------------------------|-----------------------|
| 2.7.1 Method used – Threats | expert opinion |
|------------------------------------|-----------------------|

| 2.8 Complementary information | |
|---|---|
| 2.8.1 Justification of % thresholds for trends | |
| 2.8.2 Other relevant information | <p>V geyeri recorded at Jugger Howe flushes in 1997 was not re-found, and the flushes are now considered unsuitable for the species as they were under-grazed; it is possible small numbers of animals persist on this site. Conversely, the population at Helbeck Wood SSSI (last recorded in the late 1990's) was found in quite good numbers in habitat of favourable condition. The population at Stagmire Moss SSSI still persists (also recorded in the late 1990s), though its seepage habitat has been impacted by poor ditch working. Eller's Wood & sand Dale SSSI holds huge populations, with 300 snails being found across the 8 samples taken. A single V geyeri was found at Wynbunbury Moss SSSI/NNR, marking a new English population, though this needs further survey to establish the extent of the colony. The Norfolk population at Scarning Fen has been impacted by heavy horse grazing, though the population seems stable albeit it low and comparable to numbers found in 2004.</p> <p>Vertigo geyeri was present in every sample collected from Tarn Moor and Potts Valley . At the Tarn Moor north sites, V. geyeri was the second most abundant snail comprising 21% of all individuals collected, at Tarn Moor south it comprised 25%, and at Tarn Moor south (east of beck) it comprised 17% of all snails . At Potts Valley it comprised 31% of all snails collected.</p> <p>Overall V. geyeri was the most abundant species at both sites and ranked first by frequency of individuals .</p> |
| 2.8.3 Trans-boundary assessment | |

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*)****3.1 Population**

| | | |
|---|--|---------------------------------|
| 3.1.1 Population size Estimation of population size included in the SAC network | a) Unit | number of map 1x1 km grid cells |
| | b) Minimum | 3 |
| | c) Maximum | 3 |
| | | |
| 3.1.2 Method used | Complete survey/Complete survey or a statistically robust estimate | |
| 3.1.3 Trend of population size within the network (short-term trend) | increase | |
| | | |

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 | 3.2.4 Location | 3.2.5 Broad evaluation of the measure |
|----------------------|-------------------|----------------------|--|--|
| | | H = high importance | where the measure is PRIMARILY applied | |

| | a) Legal/statutory | b) Administrative | c) Contractual | d) Recurrent | e) One-off | M = medium importance L = low importance | a) Inside | b) Outside | c) Both inside & outside | a) Maintain | b) Enhance | c) Long term | d) No effect | e) Unknown | f) Not evaluated |
|--|--------------------|-------------------|----------------|--------------|------------|---|-----------|------------|--------------------------|-------------|------------|--------------|--------------|------------|------------------|
| 2.1: Maintaining grasslands and other open habitats | | | | Y | | H | | | Y | | Y | | | | |
| 4.2: Restoring/improving the hydrological regime | | | | Y | | M | | | Y | | Y | | | | |

The maintenance of a good grazing regime is not always easy, and a number of the sites were less than favourable, whilst others were in excellent condition and yielded large numbers of snails. Scrub control has generally been effective, and has greatly improved the Sand dale site. There are some localised impacts on sites being described as not as wet as in the past, though whether this is from increased abstractions or rainfall changes/ groundwater level decreases is not always clear. Both of these need to be acted on across the site suite for full favourable condition to be reached.