

**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:

S1014 - Narrow-mouthed whorl snail (*Vertigo angustior*)

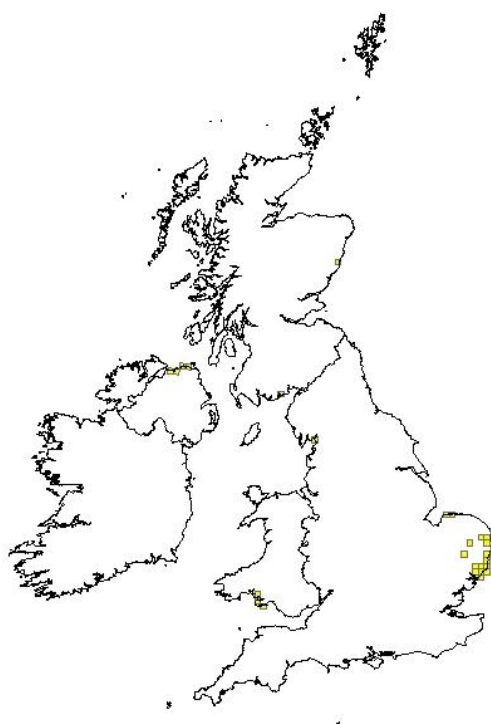
**IMPORTANT NOTE – PLEASE READ**

- 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 **Northern Ireland Environment Agency** and refers only to the state of the habitat/species in **Northern Ireland** - 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>	
<b>0.2 Species</b>	<b>0.2.1 Species code</b>	<b>S1014</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Vertigo angustior</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Narrow-mouthed Whorl Snail</b>

<b>1.1 Maps</b>		
<b>1.1.1 Distribution map</b>		<b>Sensitive True</b>



<b>1.1.2 Method used - map</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>
<b>1.1.3 Year or period</b>	<b>2007-2012</b>
<b>1.1.4 Additional distribution map</b>	<b>False</b>
<b>1.1.5 Range map</b>	

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<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<b>"Moorrens, E.A. &amp; Killeen, I.J. (2011) Monitoring and Condition Assessment of Populations of <i>Vertigo geyeri</i>, <i>Vertigo angustior</i> and <i>Vertigo moulinsiana</i> in Ireland. Irish Wildlife Manuals, No. 55. National Parks and Wildlife Service, Department of Arts, Heritage and Gaeltacht, Dublin, Ireland."</b>

<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	<b>2</b> A total of 2 occupied 1kmx1km grid squares at a limited locale at the North Antrim Coast SAC; distribution is limited to this area.
<b>2.3.2 Method used Surface area of Range</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b> Estimate of range based on the distribution of the occupied 1km squares. Limited distribution of habitat type within Northern Ireland and isolate population at North Coast identifies this range as being most accurate and probable.
<b>2.3.3 Short-term trend Period</b>	<b>2001-2012</b>
<b>2.3.4 Short term trend Trend direction</b>	<b>stable</b> Stable - species expected to prosper and survive; no mass habitat loss or extinction event across short term trend period.
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>
	<b>b) Maximum</b>
<b>2.3.6 Long-term trend Period</b>	<b>1989-2012</b>
<b>2.3.7 Long-term trend Trend direction</b>	<b>stable</b> Stable - species expected to prosper and survive; no mass habitat loss or extinction event across short term trend period.
<b>2.3.8 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>

	<b>b) Maximum</b>	
<b>2.3.9 Favourable reference range</b>	<b>a) Value in km<sup>2</sup></b>	
	Current distribution	
	<b>b) Operator for FRR</b>	
	<b>c) FRR is unknown (indicated by "true")</b>	<b>False</b>
	<b>d) Method used to set FRR</b>	
<b>2.3.10 Reason for change</b> Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.4 Population</b>		
<b>2.4.1 Population size estimation</b> (using individuals or agreed exceptions where possible)	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>2.4.2 Population size estimation</b> (using population unit other than individuals) Optional ( <i>if 2.4.1 filled in</i> )	<b>a) Unit</b>	<b>number of map 1x1 km grid cells</b>
		1km squares identifying species distribution.
	<b>b) Minimum</b>	<b>23</b>

	<p>Minimum number of occupied 1km grids. Evidence from Ireland, where a significant 3 year survey (2008 – 2010) was undertaken on known extant sites, found 1 of the 21 sites had been totally destroyed (Moorkens and Killeen 2011). A further 7 sites had declined to a situation that the snail may already be lost or is likely to be lost in the near future (5% loss in the last 5 years, and 30% sites showing decline in the last 5 years). It should be noted that site losses were in inland wetland habitats. However the isolated and only known population at the Giants Causeway is stable and is expected to survive and prosper.</p>		
	<table border="1"> <tr> <td><b>c) Maximum</b></td> <td><b>23</b></td> </tr> </table>	<b>c) Maximum</b>	<b>23</b>
<b>c) Maximum</b>	<b>23</b>		
	Maximum number of occupied 1km grids.		
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<table border="1"> <tr> <td><b>a) Definition of "locality"</b></td> <td></td> </tr> </table>	<b>a) Definition of "locality"</b>	
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	<table border="1"> <tr> <td><b>b) Method to convert data</b></td> <td></td> </tr> </table>	<b>b) Method to convert data</b>	
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<table border="1"> <tr> <td><b>c) Problems encountered to provide population size estimation</b></td> <td></td> </tr> </table>	<b>c) Problems encountered to provide population size estimation</b>		
<b>c) Problems encountered to provide population size estimation</b>			
<b>2.4.4 Year or period</b>	<p><b>2002-2007</b></p> <p>Records captured between 2002-2007, no recent records captured therefore this is the only data available for reporting. However there have been no stochastic events which could negatively impact the species.</p>		
<b>2.4.5 Method used Population size</b>	<p><b>Estimate based on partial data with some extrapolation and/or modelling</b></p> <p>Occurs in two separate bays at the Giant's Causeway, but they are considered here as one population; limited distribution within the localised area. Scope for blanket survey of species across the wider countryside.</p>		
<b>2.4.6 Short-term trend Period</b>	<p><b>2001-2012</b></p> <p>Short term trend period, no pre-2001 data used in assessment.</p>		
<b>2.4.7 Short-term trend Trend direction</b>	<p><b>stable</b></p> <p>No pre-2001 data used in assessment. Occurs in two separate bays at the Giant's Causeway, but they are considered here as one population; limited distribution within the localised area. Scope for blanket survey of species across the wider countryside.</p>		
<b>2.4.8 Short-term trend Magnitude</b>	<table border="1"> <tr> <td><b>a) Minimum</b></td> <td></td> </tr> </table>	<b>a) Minimum</b>	
	<b>a) Minimum</b>		
<table border="1"> <tr> <td><b>b) Maximum</b></td> <td></td> </tr> </table>	<b>b) Maximum</b>		
<b>b) Maximum</b>			

	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
	No pre-2001 data used in assessment.	
<b>2.4.10 Long-term trend – Period</b>	<b>1989-2012</b>	
	No pre-1989 data used in assessment.	
<b>2.4.11 Long-term trend Trend direction</b>	<b>stable</b>	
	No pre-2001 data used in assessment. Occurs in two separate bays at the Giant's Causeway, but they are considered here as one population; limited distribution within the localised area. Scope for blanket survey of species across the wider countryside.	
<b>2.4.12 Long-term trend Magnitude</b>	<b>a) Minimum</b>	
Optional		
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.13 Long term trend Method used</b>	<b>1</b>	
	No pre-2001 data used in assessment. Occurs in two separate bays at the Giant's Causeway, but they are considered here as one population; limited distribution within the localised area. Scope for blanket survey of species across the wider countryside.	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	<b>23</b>
	<b>b) Operator</b>	
	<b>c) FRP is unknown indicated by "true"</b>	<b>False</b>

	<b>d) Method used to set FRP</b>	<b>Minimum number of occupied 1km squares at the Giants Causeway SAC to maintain the favourable reference population.</b>
	The Favourable Reference Population (FRP) is 'the population in a given biogeographical region considered the minimum necessary to ensure the long-term viability of the species' (European Commission 2006). Expert opinion considers that in order to conserve the long term viability of <i>Vertigo angustior</i> in the Republic of Ireland, the population Conservation Status should be based upon maintaining the current number of sites in favourable condition and not on number of individuals which is an unreliable measure. Increased surveillance and monitoring of the species at the Giants Causeway SAC and continued successful management of the grassland will ensure that the species will survive and prosper.	
<b>2.4.15 Reason for change</b> Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.5 Habitat for the species</b>		
<b>2.5.1 Area estimation</b>	<b>23</b>	Occurs in two separate bays at the Giant's Causeway, but they are considered here as one population; limited distribution within the localised area. Scope for blanket survey of species across the wider countryside. Risk to population if mass extinction event occurs at extant population.  There is not thought to be a sufficient amount of habitat in the UK to support a viable population of the species.
<b>2.5.2 Year or period</b>	<b>2007-2012</b>	
<b>2.5.3 Method used Habitat for the species</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Moderate</b>
	<b>b) Assessment</b>	

	<b>method</b>	
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b>	
<b>2.5.6 Short-term trend Trend direction</b>	<b>stable</b>	
<b>2.5.7 Long-term trend Period</b>	<b>1989-2012</b>	
<b>2.5.8 Long-term trend Trend direction</b>	<b>stable</b>	
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	<b>23</b>
	<b>b) Absence of data indicated as '0'</b>	
<b>2.5.10 Reason for change</b> Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.6 Main pressures</b>		
<b>a) Pressure</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
B01: forest planting on open ground	H	
K02: Biocenotic evolution, succession	H	
A05: livestock farming and animal breeding (without grazing)	M	
J03: Other ecosystem modifications	M	



J03 - Other ecosystem modifications - in this case, the habitats occupied by *Vertigo angustior* are susceptible to coastal erosion destroyin the sand dune habitat.  
 A05 - grazing - under grazing in fen and fen meadow habitats will negatively impact the population.  
 B01 - Forest planting on open ground - non-native tree planting will negatively impact hydrology, shade fens areas and dry the site out.

<b>2.6.1 Method used – Pressures</b>	<b>based only on expert judgements</b>
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<b>2.7 Threats</b>		
<b>a) Threat</b>	<b>b) Ranking</b>	<b>c) Pollution qualifier</b>
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
B01: forest planting on open ground	H	
K02: Biocenotic evolution, succession	H	
A05: livestock farming and animal breeding (without grazing)	M	
J03: Other ecosystem modifications	M	
L08: inundation (natural processes)	L	

J03 - Other ecosystem modifications - in this case, the habitats occupied by *Vertigo angustior* are susceptible to coastal erosion destroyin the sand dune habitat.  
 A05 - grazing - under grazing in fen and fen meadow habitats will negatively impact the population.  
 L08 - inundation (natural process) - sea level rise will inundate populations, however although likely over a very long time period, the current risk is low.  
 B01 - Forest planting on open ground - non-native tree planting will negatively impact hydrology, shade fens areas and dry the site out.

<b>2.7.1 Method used – Threats</b>	<b>expert opinion</b>
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## **2.8 Complementary information**

### **2.8.1 Justification of % thresholds for trends**

### **2.8.2 Other relevant information**

**The species is redlisted in several European countries (e.g. GB, Ireland, Netherlands, Sweden, Denmark, Poland, most federal regions of Germany) (Cameron et al. 2003). While there now are a range of protected sites where this species is present,**

	<p><b>these require ongoing appropriate site management, and this should be enough to secure the species albeit at a smaller range of sites than at present (Moorkens pers. comm 2011), as losses are likely to continue at inland and marginal sites especially in western Europe. In the longer term, should there be loss of present habitat from sea-level rise, then many sites would not have space for movement into new areas and some of the larger populations in Western Europe would be threatened.</b></p>
	<p>The narrow-mouthed whorl snail, <i>Vertigo angustior</i>, is a species of minute land snail, a terrestrial pulmonate gastropod mollusk or micromollusk in the family Vertiginidae. At a broad level, it appears to be present in a very wide range of habitat categories of maritime dune grassland and maritime or inland wetland (including fen, marsh, salt marsh and flood plain), but the micro-habitat within which it is restricted means that the exact conditions which its presence demands are rare, and a lot of habitat that is "almost correct" is devoid of the snail. Where fixed dunes have the correct habitat conditions, the snail may cover a large area of occupancy. Otherwise, it can be found in an often narrow transition zone between saltmarsh and dune, and in transition zones between grassland and wetland with short herbs, mosses and <i>Iris</i>. It is normally found on permanently moist but free-draining soils, not subject to prolonged inundation. <i>Vertigo angustior</i> is a groundwater-dependant species.</p> <p>This is mainly a European species ranging from southern Scandinavia to the Mediterranean and from Ireland to the Caspian Sea, with a scattered and often localised distribution in many countries (Cameron et al. 2003). It is not present in the southern part of Europe (Seddon pers. comm. 2011). The range extends eastwards, with scattered localities in Turkey (Schütt 2001), Russia (S. Urals and Crimea) extending to northern Iran (Sysov and Schileyko 2009). Source - IUCN Red List of Threatened Species.</p>
<p><b>2.8.3 Trans-boundary assessment</b></p>	

## 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

a) Unit

number of map 1x1 km grid cells

Estimation of population size included in the SAC network	1km grids used for reporting	
	<b>b) Minimum</b>	<b>23</b>
	Minimum number of occupied 1km grids.	
	<b>c) Maximum</b>	<b>23</b>
		Maximum number of occupied 1km grids.
<b>3.1.2 Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
Existing records from partial survey, population is expected to survive and prosper at the site.		
<b>3.1.3 Trend of population size within the network</b> (short-term trend)	<b>stable</b>	
Stable, population is expected to survive and prosper.		

<b>3.2 Conservation measures</b>															
Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.															
<b>3.2.1 Measure</b>	<b>3.2.2 Type</b>					<b>3.2.3 Ranking</b>  H = high importance M = medium importance L = low importance	<b>3.2.4 Location</b>  where the measure is PRIMARILY applied			<b>3.2.5 Broad evaluation of the measure</b>					
	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off		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		M			Y	Y	Y	Y			
4.1: Restoring/improving water quality				Y		H			Y	Y	Y	Y			

4.2: Restoring/im proving the hydrological regime				Y		H			Y	Y	Y	Y			
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