

**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:

S4056 - Little ramshorn whirlpool snail (*Anisus vorticulus*)

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	S4056
	0.2.2 Species scientific name	<i>Anisus vorticulus</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Little ram's-horn whorled snail

1.1 Maps

1.1.1 Distribution map		Sensitive	False
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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, T.R. (2012) Article 17 assessment on <i>Anisus vorticulus</i> in Suffolk, February 2012. Lot 3 An ecological survey including floral and faunal observations undertaken for Natural England by Abrehart Ecology</p> <p>Abrehart, T.R. (2012) Article 17 assessment on <i>Anisus vorticulus</i> in Norfolk and Suffolk, February 2012. Lot 4 An ecological survey including floral and faunal observations undertaken for Natural England by Abrehart Ecology.</p> <p>Abrehart, T.R. (2012) Article 17 assessment on <i>Anisus vorticulus</i> in Norfolk, March 2012. Lot 5 An ecological survey including floral and faunal observations undertaken for Natural England by Abrehart Ecology.</p> <p>Abrehart, T.R. (2012) Article 17 assessment on <i>Anisus vorticulus</i> in Suffolk, February 2012. Lot 3 An ecological survey including floral and faunal observations undertaken for Natural England by Abrehart Ecology.</p> <p>Willing, MJ. (2012) Article 17 assessment on <i>Anisus vorticulus</i> at Pevensey Levels SSSI, Lot 1, Down & Manxey Levels.</p> <p>Willing, MJ & Killeen IJ (1999) <i>Anisus vorticulus</i>- A rare and threatened water snail. <i>British Wildlife</i>, August, pp 412-418.</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.</p> <p>Hinton, G, Priority BAP analyser spreadsheet, accessed for data gathered to 18 May 2011. Unpublished."</p>

2.3 Range	
2.3.1 Surface area Range	
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	decrease

Trend direction	The decline continues through a combination of within site losses from previously occupied ditches (as at North Cove) and some whole site losses (as at Gillingham Marshes, Norfolk which formerly held small numbers and now seems to hold none, and at Geldeston marshes-"lost" in the development to an alternative nature conservation priority.) Within its core stronghold of Pevensey Levels, it remains strong on Hooe Level, but less so on Horse Eye Level, and poor across Down & Manxey Levels. Large parts of Pevensey remain, however, unsurveyed and will incorporate many hundreds of ditches. The Sprat's Water and Barnby broads S Norfolk sites still hold the species as they have done in the past, with good representation; the Arun Valley complex of sites has been more patchy, with continued presence at Pulborough brooks but a more checkered history at Amberley Wildbrooks.	
2.3.5 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
2.3.6 Long-term trend Period	1991-2012	
2.3.7 Long-term trend Trend direction	decrease	
2.3.8 Long-term trend Magnitude Optional	a) Minimum	
	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 Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	a) Genuine change?	True
	b) Improved knowledge/more accurate data?	True
	c) Use of different method (e.g. "Range tool")?	False

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	40
	c) Maximum	40
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	Even the 1km sq scale masks declines, so the assessment has been based on the sample point data occurrences as much as the km spread. Trend periods do not align with previous reports, so make things tricky.
2.4.4 Year or period	1991-2012	
2.4.5 Method used	Complete survey/Complete survey or a statistically robust	

Population size	estimate	
2.4.6 Short-term trend Period	2001-2012	
2.4.7 Short-term trend Trend direction	decrease	
	<p>A number of populations seem to have been lost across its former range, leading perhaps to a concentration in the core areas. This is probably more about marginal quality sites getting worse- this seems true, for example, in the Gillingham Marshes, Norfolk which formerly held small numbers and now seems to hold none, whilst the Geldeston marshes has been "lost" in the development to an alternative nature conservation priority. <i>Anisus</i> only occurred in some 23% of the ditches sampled (n=192), so remains a scarce component of the ditch fauna. Despite being rare, this was often not the consequence of obvious impacts on ditch characteristics, as it often occurred with 3 or 4 other RDB molluscs. It may, however, be differentially impacted by ditch works and may take much longer to recover than the other rare species do, and/or may just be naturally rare, even in high quality ditch systems.</p> <p>Current survey data sample points suggests 40 "strong" populations and 24 "weaker" ones, though it is hard to know if this stability is persistent. Ratio of occupied to sampled but either lost or not found considered important; the species was not found in 192 samples, and was present in 45, or just 23.44% of samples taken.</p>	
2.4.8 Short-term trend Magnitude	a) Minimum	
	Number of one km sqs within the trend period. Counted twice so accurate.	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend Method used	Estimate based on partial data with some extrapolation and/or modelling	
2.4.10 Long-term trend – Period	1991-2012	
2.4.11 Long-term trend Trend direction	decrease	
2.4.12 Long-term trend Magnitude	a) Minimum	

Optional	Number of one km sqs within the trend period. Counted twice so accurate. In both instances, pure 10km sq records are recorded as having only 1 one km occurrence within them.	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	2	
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	approximately equal to
	c) FRP is unknown indicated by "true"	False
	d) Method used to set FRP	A revised, albeit rather rough, FRV of 26 one km sqs has been made based on recent survey data and references to past records, site gains and losses. It captures the finer detail of the sites. The previous 9 ten sqs of the FRP value is retained here for sake of audit; though the recent survey data of 13 ten kms exceeds this figure, this is a function of new survey effort but masks the "thinning" of the population.
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

2.5 Habitat for the species		
2.5.1 Area estimation	2294.93	
	<p>This is the English figure for grazing marsh area, although this figure includes land surface in addition to the ditch areas, and will include marshes where anisus has not been recorded, or has been and is considered lost. The figure is thus a maximum.</p> <p>There is thought to be a sufficient amount of habitat in the UK to support a viable population of the species.</p>	
2.5.2 Year or period	2007-2012	
2.5.3 Method used Habitat for the species	Estimate based on partial data with some extrapolation and/or modelling	
2.5.4 Quality of the habitat	a) Habitat quality	Moderate
	<p>Covers land areas so the ditch habitat used by <i>Anisus</i> is a fraction of this resource, especially as it seems to have always been a little geographically restricted. The Moderate ascription to habitat quality is in recognition of the excellent HLS work which has improved both water quality and ditch management across a number of grazing systems, and yet the real declines in other systems, such as at South Walsham Marshes and Muckfleet and Burgh Common Marshes SSSI, where water level management, water quality and ditch grazing pressure need to be addressed. The longer term trend has been one of water quality improvements, though recent climate driven impacts on water levels have moderated this benefit a little.</p> <p><i>A.vorticulus</i> has only been found in the UK within grazing marshes which are drained by ditches, rhymes, dykes etc. It occurs in the unpolluted, calcareous waters of well-vegetated marsh drains and is occasionally found with other uncommon or vulnerable molluscs such as <i>Valvata macrostoma</i>, <i>Pisidium pseudosphaerium</i> and <i>Segmentina nitida</i> and often found floating on the surface amongst duckweed (<i>Lemna</i> spp.). It also shows preference for ditches or channels of >3m in width and >1m in depth with a diverse flora but with a moderate emergent vegetative cover, and often occurs in ditches in wet fields that flood in winter, as this may be important in enabling young snails to colonise new ditches.</p>	
	b) Assessment method	NE inventory grazing marsh habitat data and CSM condition stats (after Hinton).
2.5.5 Short-term trend Period	2001-2012	
2.5.6 Short-term trend Trend direction	stable	
	Although the 2001-2006 report correctly had the trend as decreasing,	

	<p>much effort has gone into securing agri-environmental support on marshes such as the Pevensey levels, and in the Broads. SSSI condition statistics show that 46% of the SSSI are in favourable condition, whilst 41% are recovering (n=41,187 ha), suggesting an improved trend line. The fact that some 188,306 ha lie outside the SSSI series is of less importance for this species which is now largely (though not exclusively) centred within the series. Indeed, within the main centres, the condition is generally marked as favourable or unfavorable recovering. This is not to deny that there are site issues, such as the aggressive stands of marsh pennywort at Pevensey or, indeed, that the species now hardly occurs outside of the protected site and is unlikely (save through direct action) to regain its former sites. However, it is felt that the overall trend line is now either stable or in a much shallower decline than before.</p>	
2.5.7 Long-term trend Period	1991-2012	
2.5.8 Long-term trend Trend direction	decrease	
	As noted in the previous report, the trend has been one of decline, in the face of water quality declines, poor land and ditch management practices, and direct loss through agricultural action.	
2.5.9 Area of suitable habitat for the species	a) Value in km²	
	Given that the species has a very strong dependency on ditch successional stage, and connectivity with other ditches, it would be extremely hard to arrive at a useful figure for this parameter.	
	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?	False
	b) Improved knowledge/more accurate data?	True
	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	H	

H02: Pollution to groundwater (point sources and diffuse sources)	M	

Whilst the water quality of many of the sites occupied by *Anisus* is good, there is a certain restriction in some areas from less favourable water quality conditions, limiting spread. The grazing marsh systems in many areas (Pevensy most notably) are supported by grazing regimes which maintain a lower riparian vegetation structure and a well graded bank. Economic threats to this industry would impact the ditch systems. Water level reductions in ditches and fens systems are impacted by abstractions, and in periods of drought, the problems can become severe.

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	
J02: human induced changes in hydraulic conditions	H	
A02: modification of cultivation practices	M	

Frequency and extent of ditch works appears to impact *Anisus* populations, and control of this is now sought in England through the application of a ditch protocol under a Class licence. The 7-20 year ditch cleaning frequency is based on work on Pevensy and elsewhere.

Modification of cultivation practices would be a trend away from grazing to other agricultural enterprises on grazing levels which would impact either through changes in water quality or in marginal vegetation structure.

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	This species seems to be naturally rare within the ditch systems in which it occurs, even when the ditches support a number of other rare aquatic snail species (such as <i>Valvata macrostoma</i>) and so have both good water quality and ditch management regimes. Extensive survey work on the Pevensy levels in 2007-08 found that only 38% of the surveyed ditches held this species, whilst in the Horse Eye Levels on the same system, a 2008 survey of 50 extra ditches only resulted in the confirmation of 1 known population and the addition of 4 new

	ones. The species appears to be impacted by ditch cleaning regimes, so both low frequency and low extent favour it.
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	a) Unit	number of map 1x1 km grid cells
Estimation of population size included in the SAC network		
	b) Minimum	19
	c) Maximum	19
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)	stable	

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 H = high importance M = medium importance L = low importance	3.2.4 Location where the measure is PRIMARILY applied			3.2.5 Broad evaluation of the measure					
	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
:															
4.0: Other wetland-related measures				Y		M	Y					Y			
4.1: Restoring/improving water quality				Y		H			Y			Y			
6.3: Legal protection of habitats and species	Y					M			Y						Y

Agri-environment schemes are in operation across a number of sites and/ or in they are managed by conservation organisations, so water quality improvements and careful management options with respect to ditch management are moreorless in operation. The recent ditch management protocol, working on a broad front of possible options, is in place under a Class Licence, though it is to early to assess the results from this action.