European Community Directive

on the Conservation of Natural Habitats

and of Wild Fauna and Flora

(92/43/EEC)

Second Report by the United Kingdom under Article 17

on the implementation of the Directive

from January 2001 to December 2006

Conservation status assessment for :

S1026: *Helix pomatia* - Roman snail

S1026 *Helix pomatia* Roman Snail

Audit trail compiled and edited by JNCC and the Invertebrate Inter-Agency Working Group

This document is an audit of the data and judgements on conservation status in the UK's report on the implementation of the Habitats Directive (January 2001 to December 2006) for this species. Superscript numbers accompanying the headings below, cross-reference to headings in the corresponding Annex B reporting form. This supporting information should be read in conjunction with the UK approach for species (see 'Assessing Conservation Status: UK Approach').

Although *Helix pomatia* is probably an ancient introduction. to the British fauna (the likely pedigree extends back about 2000 years), it is included in the UK report because:

- The organism is endangered in its native range (see paragraph above) giving the isolated UK populations particular significance;
- Information clearly demonstrates that the species does not have an adverse impact on important native species or ecosystems;
- The natural range of the species reaches the north-west coast of Europe (Atlantic coast of France).

1. Range Information[2.3]

1.1 Surface area of range[2.3.1]

7,797km^2

The above estimate was calculated using records collected from 1990 onwards within the Alpha Hull software. Extent of occurrence was used as a proxy measure for range (see Map 1.1), and a 10km resolution was assumed. The value of alpha was set at 20km to reflect the mobility of this species.

1.2 Date of range determination[2.3.2]

1990 – 1998

The current extent of occurrence was calculated using records dated from 1990 to 1998; 1998 being the most recent records available through the NBN Gateway. The available data does not support a more recent assessment of 'current' range.

## 1.3 Quality of range data[2.3.3]

Moderate

This is a large, conspicuous species, easily visible both as live individuals and as dead shells, and there has been good coverage from the recording scheme run by the Conchological Society of Great Britain and Ireland. However, data collected by the Society in recent years has not yet been added to the NBN. Further, there has been no specific collation of information targeted at this species other than the routine data collection for recording purposes. For these reasons, data quality is reported as moderate, rather than good.

1.4 Range trend[2.3.4] and range trend magnitude[2.3.5]

Unknown

Based on the data available, it is not possible to comment on post-1994 trends at this time.

Map 1.1. Current extent of occurrence
and occupied 10-km squares (1990-1998)

Data sources provided in Section 6
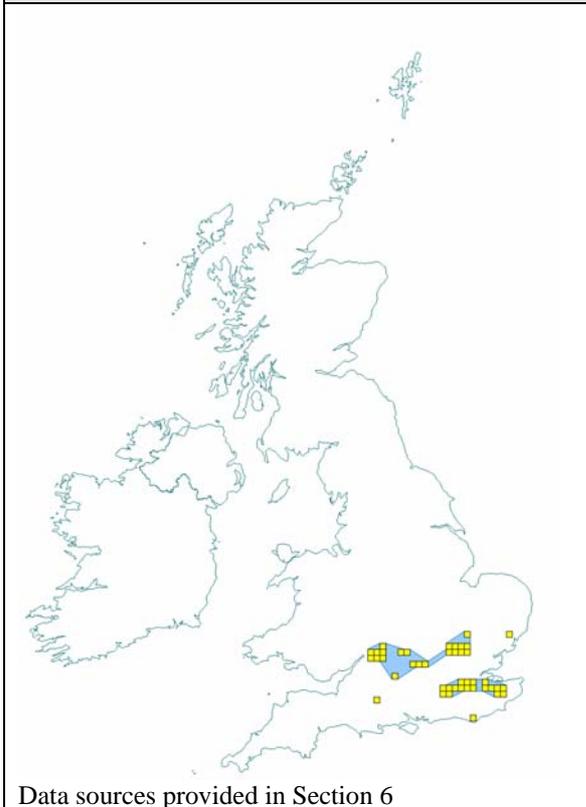
1.5 Range trend period [2.3.6]
1994 – 2006

1.6 Reasons for reported trend in range[2.3.7]
Not applicable

1.7 Favourable reference range[2.7.1]
7,797km^2 (Equal to current)
The decision tree in Note 1 has been used as a guide in determining the favourable reference range estimate (see 'Assessing Conservation Status: UK Approach').

The post-1994 trend is unknown. However on the basis that *H. pomatia* is not restricted, and not considered to be at high risk from stochastic events, the current range has been set as a minimum baseline for the favourable reference value.

1.8 Range conclusion[2.8]
Favourable
Current range is not less than the favourable reference range. Current trend is not known.

2. Population of the Species[2.4]

2.1 Population estimate[2.4.1]
43 occupied 10-km squares

There are currently no population estimates for this species. The only potential proxy is the number of occupied 10km squares (area of occupancy). Based on the same data used to calculate 'current' range (comprising records from 1990-1998), this has been estimated at 43.

2.2 Date of population estimate[2.4.2]
1990 – 1998
In the absence of more recent/comprehensive data, the 'current' population has been calculated using the same time class as that used for 'current' range.

2.3 Method of population estimate[2.4.3]
2 = extrapolation from surveys of part of the population, sampling
The mollusc (non-marine) data for Great Britain and Ireland (Conchological Society) includes all the records survey data collected by members of the Conchological Society. The Invertebrate Site Register (Natural England) data has been gathered from a wide variety of often scattered sources.

2.4 Quality of population data[2.4.4]
Poor
No comprehensive population estimate exists for this species, and the estimate reported is based on records dated up to 1998 only. Furthermore, it can only be reported at a coarse 10km scale. Because of this, data quality is reported as poor.

2.5 Population trend[2.4.5] and population trend magnitude[2.4.6]
Decreasing
Expert opinion is that the species is likely to have suffered a decline as a result of habitat loss and collection for the food trade.

2.6 Population trend period[2.4.7]
1980 – 1998

2.7 Reasons for reported trend in population[2.4.8]
Not applicable

2.8 Justification of % thresholds for trends[2.4.9]
Not applicable

2.9 Main pressures[2.4.10]
100 Cultivation - changes to calcareous grassland
101 Modification of cultivation practices- changes to calcareous grassland
141 Abandonment of pastoral systems- changes to calcareous grassland
240 Taking / removal of fauna, general - collecting for restaurant trade:
401 Continuous urbanisation - urban development in SE England
502 Routes, autoroutes - fragmentation stopping colonization:
Note, these are the most likely pressures based on a professional understanding of the species; they are not currently supported by data collation or research.

2.10 Threats[2.4.11]
100 Cultivation
101 Modification of cultivation practices

141 Abandonment of pastoral systems
240 Taking / removal of fauna, general
401 Continuous urbanisation
502 Routes, autoroutes

2.11 Favourable reference population[2.7.2]
Unknown
The decision tree in Note 1 has been used as a guide in determining the favourable reference population estimate (see 'Assessing Conservation Status: UK Approach').

Expert opinion is that *H. pomatia* has suffered historical decline as a result of habitat loss and trapping for consumption; the increase in number of occupied 10km squares is attributed only to historical under-recording, and thus is considered inaccurate and misleading. It can not be reported with any degree of certainty whether the current population is viable. A judgement on this value is therefore withheld until more comprehensive information becomes available.

2.12 Population conclusion[2.8]
Unknown
There is insufficient reliable information to make a judgment at this time.

3. Habitat for the Species in the Biogeographic Region or Sea[2.5]
Grassland (usually not the shortest most heavily grazed grasslands), scrub and sometimes woodland on calcareous soils.

3.1 Surface area of habitat[2.5.2]
Unknown
Not enough is known about this species at a micro-habitat level to make a judgment on habitat area.

3.2 Date of estimation[2.5.3]
Not applicable

3.3 Quality of data on habitat area[2.5.4]
Poor
No habitat area estimate exists for this species.

3.4 Habitat trend[2.5.5]
Unknown
It is likely that there has been loss and/or deterioration of suitable habitat calacareous grassland/scrub margin habitat through a combination of destruction and/or neglect. However, as data collection on its habitat has not so far been directed towards this species, trends have been reported as unknown until more substantial information is collated.

3.5 Habitat trend period[2.5.6]
1994 – 2006

3.6 Reasons for reported trend in habitat[2.5.7]

Not applicable

3.7 Suitable habitat for the species (in km2)[2.7.3]
Unknown

3.8 Habitat conclusion[2.8]
Unknown

4. Future Prospects[2.6]
Unknown

Given the species' distribution in continental Europe, this is a species that might be expected to be able to occur further north in the UK. However, with limited powers of mobility, it is unlikely to meet this potential without artificial assistance.

4.1 Future prospects conclusion[2.8]
Unknown

5. Overall Conclusion [2.8]
Unknown

Table 5.1. Summary of conclusions

Parameter	Judgement	Grounds for Judgement (in accordance with Annex C)	Reliability*
Range	Favourable	Current range not smaller than the favourable reference range. Trend unknown.	3
Population	Unknown	No or insufficient reliable information available	N/A
Habitat	Unknown	No or insufficient reliable information available	N/A
Future Prospects	Unknown	No or insufficient reliable information available	N/A
Overall Assessment	Unknown	Two or more Unknown combined with Favourable	N/A

*1=High, 2=Moderate, 3=Low

High – Expert opinion is that the concluding judgement accurately reflects the current situation based on a professional understanding of the species. For range, population, and habitat, quality of data used to establish the current estimate has been identified as "good"; data used to inform trends is comprehensive and up to date.

Moderate – A greater understanding of the feature, or the factors affecting it, is required before a confident concluding judgement can be made by experts. For range, population, and habitat, the current estimate and/or trend are based on recent, but incomplete or limited survey data; or alternately, a comprehensive, but outdated (pre-1994) review.

Low – Judgements, and comprising estimates, are based predominately on expert opinion.

N/A – Assessment conclusion is "unknown", on the basis of insufficient reliable information

6. References

ALEXANDER, K.N.A. 1994., The Roman snail *Helix pomatia* L. in Gloucestershire and its conservation. *Gloucestershire Naturalist*. **7**, 9-14.

KERNEY, M. P., 1999. *Atlas of the Land and freshwater Molluscs of Britain and Europe*. Harley Books, Colchester.

WELLS, S.M. & CHATFIELD, J. E., 1992. Threatened non-marine molluscs of Europe, *Nature and Environment,* No. 64. Council of Europe Press, Strasbourg.

Map Data Sources

Mollusc (non-marine) data for Great Britain and Ireland – Conchological Society of Great Britain and Ireland; Invertebrate Site Register – England (via the NBN Gateway).