

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 :
S1034: *Hirudo medicinalis* - Medicinal leech

Please note that this is a section of the report. For the complete report visit <http://www.jncc.gov.uk/article17>

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S1034 *Hirudo medicinalis* Medicinal leech

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').

1. Range Information^{2.3}

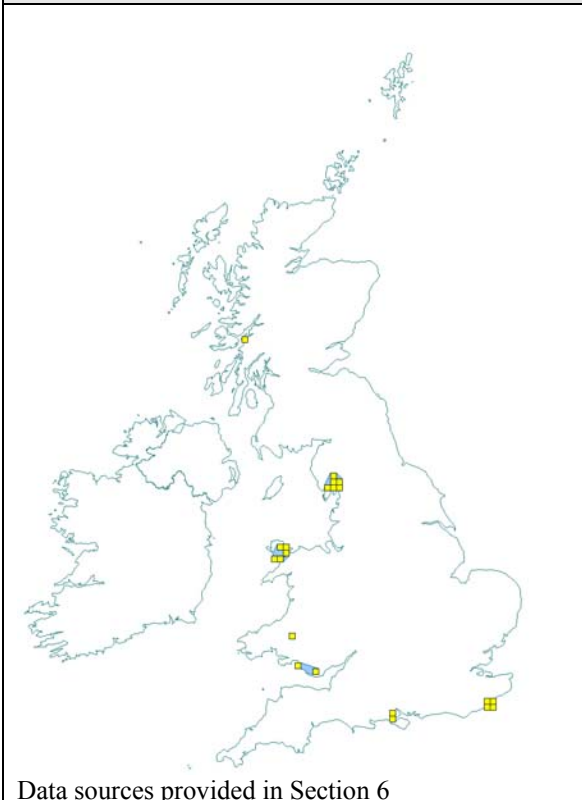
Hirudo medicinalis has been recorded from circa 84 sites scattered across Great Britain (absent from NI).

1.1 Surface area of range^{2.3.1}

2,151 km²

The above estimate was calculated within Alpha Hull software, using extent of occupancy as a proxy measure for range (see Map 1.1), at a 10km resolution. The value of alpha was set at 20km to reflect the dispersal capacity of this species

Map 1.1 Current extent of occurrence and occupied 10-km squares (1990-2003)



1.2 Date of range determination^{2.3.2}

1990 – 2003

This date range has been selected as it reflects a period of targeted survey.

1.3 Quality of range data^{2.3.3}

Good

Thorough surveys were undertaken between 1995 and 2000 at virtually all sites in the UK at which medicinal leeches have historically been recorded. Additional sites in the vicinity of these historical sites were also sampled, together with randomly located sites in Scotland (to assess the potential extent of under-recording). These surveys showed that although medicinal leeches had been lost from a high proportion of historical sites, they were actually far more widespread than previously thought in two key areas: South Cumbria and Romney Marsh. In the Romney Marsh area, medicinal leeches had recently colonised a large number of recently created waterbodies. Medicinal leeches are though, restricted to a very small number of often isolated sites away from these two key areas.

1.4 Range trend^{2.3.4} and range trend magnitude^{2.3.5}

Stable

Available records show an increase in distribution: this is an artefact resulting from targeted survey work in the period 1995 – 2000 following a long period of under-recording.

1.5 Range trend period^{2.3.6}

1990 – 2003

This date range has been selected as it reflects a period of targeted survey.

1.6 Reasons for reported trend in range^{2.3.7}

Not applicable

There has been no change in range for this species.

1.7 Favourable reference range^{2.7.1}

2,151 km² (Equal to current)

Using the decision tree in Note 1 as a guide (see ‘Assessing Conservation Status: UK Approach’), the favourable reference range has been set based on present distribution. Historic information suggests this species has always been widespread but rare within GB. Therefore, based on expert opinion, the current range is sufficiently large to support the species at favourable status.

1.8 Range conclusion^{2.8}

Favourable

The range of medicinal leech is stable and equivalent to the favourable reference range.

2. Population of the Species^{2.4}

2.1 Population estimate^{2.4.1}

87 populations

Population estimates have been made at some key sites, but the amount of data available across the range is considered insufficient to make a realistic estimate for GB. The population estimate here is, therefore, based on the number of sites with recent records.

2.2 Date of population estimate^{2.4.2} **2000**

2.3 Method of population estimate^{2.4.3}

2 = extrapolation from surveys of part of the population, sampling

This estimate is based on survey work done between 1995 and 2000 (see section 1.3).

2.4 Quality of population data^{2.4.4}

Good

The estimate given for the number of populations within GB is based on thorough survey work done to standardised methods and is thus considered to be of good quality. No attempt has been made to estimate the GB population at the level of the individual.

2.5 Population trend^{2.4.5} and population trend magnitude^{2.4.6}

Stable

Available records show an increase in the number of populations/sites: this is an artefact resulting from targeted survey work in the period 1995-2000 following a long period of under-recording. Information from the two main GB strongholds for this species indicates that population levels remain relatively stable i.e. within acceptable norms of fluctuation.

2.6 Population trend period^{2.4.7}

1900 – 2000

Population trend has been assessed over a relatively long time period so that recent survey work can be set in context.

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}

800 Landfill, land reclamation and drying out, general

803 Infilling of ditches, dykes, ponds, pools, marshes or pits

810 Drainage

811 Management of aquatic and bank vegetation for drainage purposes

853 Management of water levels

2.10 Threats^{2.4.11}

200 Fish and shellfish aquaculture

800 Landfill, land reclamation and drying out, general

803 Infilling of ditches, dykes, ponds, pools, marshes or pits

810 Drainage

811 Management of aquatic and bank vegetation for drainage purposes

853 Management of water levels

750 Other pollution or human impacts/activities

2.11 Favourable reference population^{2.7.2}

87 populations

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'). Based on this and expert opinion, the present range is sufficient to maintain a viable GB population of this species. The favourable reference population has therefore been set as equal to that currently recorded, i.e. the population is sufficiently large to support the species at favourable status for the foreseeable future.

2.12 Population conclusion^{2.8}

Favourable

The current population is stable and equivalent to the favourable reference population.

3. Habitat for the Species in the Biogeographic Region or Sea^{2.5}

Medicinal leech is usually found in small water bodies with a muddy substrate and fringing vegetation. This species requires relatively warm water (19-23°C) in which to feed and breed. Egg cocoons are laid on marginal plants. Medicinal leeches feed on the blood of vertebrates and it is thought that mammalian or possibly avian blood is required to enable successful breeding.

3.1 Surface area of habitat^{2.5.2}

Unknown

It is not possible to generate a meaningful estimate of habitat surface area for this species. We know *H. medicinalis* is found at two major sites and 82 other sites. Based on what we know about the ecology of the species we may surmise that the surface area presently occupied is $\leq 100\text{km}^2$. However, we do not have a UK-wide assessment of water bodies likely to be suitable for this species. Without such information it is not possible to estimate the surface area of habitat.

3.2 Date of estimation^{2.5.3}

Not applicable

3.3 Quality of data on habitat area^{2.5.4}

Poor

The estimate is based on extrapolation from site data.

3.4 Habitat trend^{2.5.5}

Unknown

May be declining as water bodies are either lost through infilling, change character through re-profiling or removal of stock (i.e. food source). However, there is insufficient data to substantiate this.

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

It is not possible to generate a meaningful estimate of suitable habitat for this species. We know *H. medicinalis* is found at two major sites and 82 other sites. Based on what we know about the species' ecology and distribution we could surmise that the area of habitat presently occupied is $\leq 25\text{km}^2$. However, we do not have a UK wide assessment of water bodies likely to be suitable for this species. Without such information it is not possible to estimate suitable habitat for this species.

3.8 Habitat conclusion^{2.8}

Unknown

There is insufficient information available on habitat area and quality to make a judgment.

4. Future Prospects^{2.6}

Good prospects

The medicinal leech is fully protected under UK legislation; it is listed under Schedule 5 of the Wildlife and Countryside Act 1981.

Recent survey work has shown the species to be more widespread than initially thought. There are still threats to the species, primarily loss of habitat and loss of suitable habitat condition. Suitable conservation measures are in place to ensure the GB population of this species remains viable.

4.1 Future prospects conclusion^{2.8}

Favourable

5. Overall Conclusion^{2.8}

Favourable

Range and population are considered Favourable for this species; the habitat assessment is unknown at present and requires further consideration. The species is, therefore, assessed to be at Favourable Conservation Status.

Table 5.1 Summary of conclusions

Parameter	Judgement	Grounds for Judgement (in accordance with Annex C)	Reliability*
Range	Favourable	Stable and not smaller than the favourable reference range	1
Population	Favourable	Populations not lower than favourable reference population	1
Habitat	Unknown	No or insufficient reliable information available	N/A
Future Prospects	Favourable	Main pressures and threats to the species not significant; species will remain viable on the long-term	2
Overall Assessment	Favourable	Three Favourable and one Unknown	2

*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

AUSDEN, M., BANKS, B., HOWE, M., NIXON, A., PHILLIPS, D., WICKS, D. & WYNNE, C. 2002. The status, conservation and use of the medicinal leech. *British Wildlife*, **13**, 229-238.

JONES, A.C.L. & KETTLE, B.S. 1999. Medicinal leech survey of Anglesey (Ynys Mon) 1999. North Wales Wildlife Trust unpublished report.

LLOYD, D. 1998. The Medicinal Leech *Hirudo medicinalis* in Wales. North Wales Wildlife Trust unpublished report.

MAITLAND, P.S. 1996. Recovery of the medicinal leech *Hirudo medicinalis* in Scotland. Phase 1. Unpublished report to SNH. Contract No. RASD/072/96 IBB SRP.

MAITLAND, P.S. 1997. Recovery of the medicinal leech *Hirudo medicinalis* in Scotland. Phase 2. Unpublished report to SNH.

MARSHALL, H. 1999. Medicinal leech (*Hirudo medicinalis*) survey of Cumbria 1998-99. RSPB/EN unpublished report.

MCCONNELL, H. 2000. A study of medicinal leech populations in the Romney Marsh Natural Area, 2000. Romney Marsh Countryside Project unpublished report.

NIXON, A. 1999. A survey of the Medicinal Leech (*Hirudo medicinalis*) in the Romney Marsh Natural Area, 1998/99. Romney Marsh Countryside Project unpublished report.

REEVES, R. 1999. Survey of medicinal leech (*Hirudo medicinalis*) in the New Forest, 1998 & 1999. Hampshire Wildlife Trust unpublished report.

YOUNG, M. 2000. Medicinal leech (*Hirudo medicinalis*) survey of Cumbria 2000. RSPB/EN unpublished report.

Map Data Sources

RSPB Medicinal leech records, 1997-2000; Ausden *et al* .2002; CCW Medicinal leech records (M. Howe, *pers comm*) 1900-2003.

Invertebrate Site Register - Scotland (1852-1990), Scottish Natural Heritage; Invertebrate Site Register - England (1738-2005), Natural England (via the NBN Gateway).