

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

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

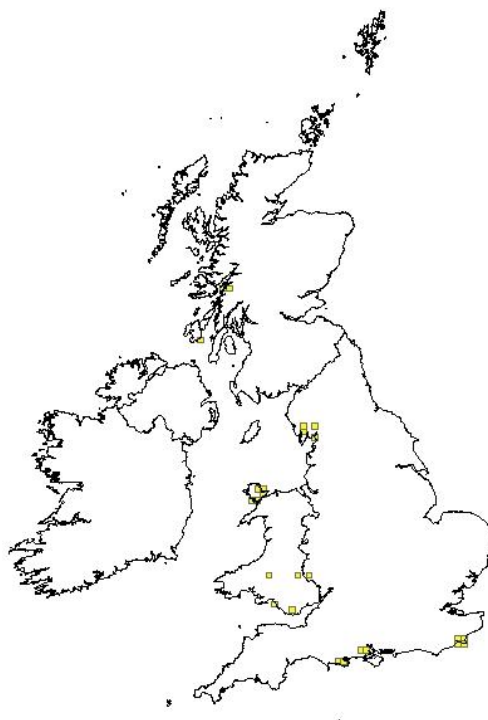
Species:

S1034 - Medicinal leech (*Hirudo medicinalis*)

Reporting format on the 'main results of the surveillance under Article 11' for Annex II, IV & V species

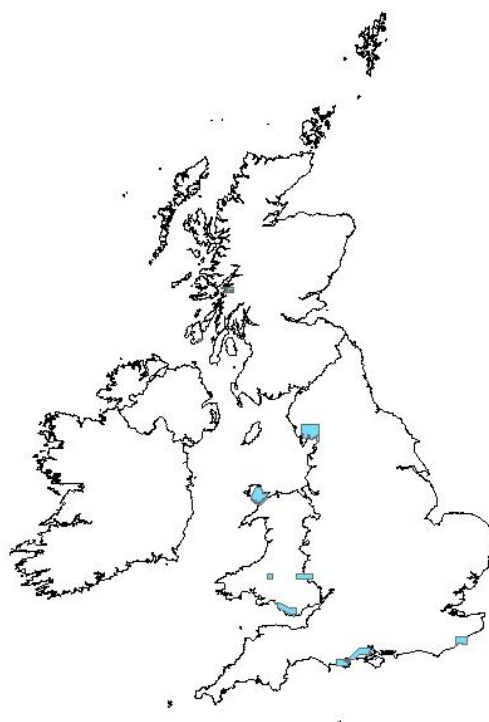
<i>Field name</i>	<i>Brief explanations</i>	
0.2 Species	0.2.1 Species code	S1034
	0.2.2 Species scientific name	<i>Hirudo medicinalis</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	

1.1 Maps			
1.1.1 Distribution map	True	Sensitive	False
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period. For further details see the 2013 Article 17 UK Approach document.		



1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
1.1.3 Year or period	1998-2012
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period. For further details see the 2013 Article 17 UK Approach document.

1.1.4 Additional distribution map Optional	False
1.1.5 Range map	True The range map was produced by applying the UK range mapping tool to the distribution map presented in 1.1.4. The alpha value for this species was 20km. For further details see the 2013 Article 17 UK Approach document.



2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	<p>Eglise.P, (2010) MEDICINAL LEECH (HIRUDO MEDICINALIS) SURVEY 2010 RSPB DUNGENESS NATURE RESERVE, RSPB. June - August 2010, unpublished report.</p> <p>Ausden, M., Banks, B., Donnison, E., Howe, M., Nixon, A., Phillips, D., Wicks, D. & Wynne, C. 2002. The status, conservation and use of the medicinal leech. <i>British Wildlife</i>, 13: 229-238.</p> <p>Banks (2011) East Guldeford - medicinal leech, sourced at: http://rxwildlife.org.uk/category/worms/</p> <p>Chelmick and Pickess, B.P, (2011) A further site for Medicinal Leech <i>Hirudo medicinalis</i>, in Dorset, Recording Dorset, No.10 November 2011.</p> <p>Countryside Survey: Ponds report from 2007, sourced at: http://www.froglife.org/documents/CountrysideSurvey-PondsReport2007.pdf http://www.herefordhart.org/downloads/ponds&newtsfinalreport.pdf. 2008.</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:</p>

JNCC. Available from: www.jncc.gov.uk/article17
Jones, A.C.L. & Kettle, B.S. 1999. Medicinal leech Survey of Anglesey (Ynys Mon) 1999. Volumes 1 and 2. Unpublished report. North Wales Wildlife Trust.
Kirkland 2012 (unpublished report)
Lloyd, D. 1998. The medicinal leech *Hirudo medicinalis* in Wales. CCW Contract Science. 311. North Wales Wildlife Trust/Countryside Council for Wales.
Maitland 1996, 1997 (SNH reports)
MOD (2010) Sanctuary Magazine, No.39, sourced at: http://www.mod.uk/NR/rdonlyres/0798DEB9-605E-4D8A-8BB6-F4B6F59F23C4/0/issue_39_pt_1.pdf
Taylor, R. 2012. Monitoring medicinal leech *Hirudo medicinalis* at Cynffig/Kenfig SSSI and Pysgodlyn Mawr SSSI. CCW Regional Report. CCW/WW/12/1. Countryside Council for Wales.

UK distribution map data sources

Additional data: Herefordshire Wildlife Trust record. Sent to JNCC in final spreadsheet 5thOct2012
BIS CCW HQ Occasional Reconnaissance Surveys Emailed to JNCC (no details) Summer 2012
BIS sent directly to JNCC (no details) SurveyName BIS Casual records - unverified
Brian Banks, pers comm, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012
Internally within NE, local team SSSI record. Sent to JNCC in final spreadsheet 5thOct2012
Internally within NE, site manager of NNR. Sent to JNCC in final spreadsheet 5thOct2012
Invertebrate Site Register - Scotland (1852-1990)
Jennifer England record sent to NE NNR site manager. Sent to JNCC in final spreadsheet 5thOct2012
Martin Drake survey record via Brian Banks, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012
NBN Gateway data: Countryside Council for Wales GA000506 Extracted by LH 19/09/2012 Welsh Invertebrate Database (WID)
NBN Gateway data: Cumbria Biodiversity Data Centre GA000867 Extracted by LH 19/09/2012 Cumbria Biodiversity Data Centre. Invertebrate Observation Records other than Lepidoptera. Pre-2010 for Cumbria
NBN Gateway data: Dorset Environmental Records Centre GA001010 Extracted by LH 19/09/2012 Dorset Important Species 2012 for Natural England use only
NBN Gateway data: Scottish Natural Heritage GA001141 Extracted by LH 19/09/2012 Recovery of the medicinal leech *Hirudo medicinalis* in Scotland - Phase II
NBN Gateway data: South East Wales Biodiversity Records Centre GA000823 Extracted by LH 19/09/2012 CCW Regional Data : South East Wales Non-sensitive Species Records
NBN Gateway data: Sussex Biodiversity Record Centre GA001076 Extracted by LH 19/09/2012 SxBRC Full dataset for Environment Agency and Natural England use only.
Philip Eglise for RSPB, survey report, reportable thro

	<p>permission, N Holt, RSPB, to NE. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Records held on CCW's invertebrate database - added by Mike Howe (CCW) 02/10/2012</p> <p>Richard Reeve, pers comm, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>UK Distribution Map data sources</p> <p>Additional data:Herefordshire Wildlife Trust record. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>BIS CCW HQ Occasional Reconnaissance Surveys Emailed to JNCC (no details) Summer 2012</p> <p>BIS sent directly to JNCC (no details)SurveyName BIS Casual records - unverified</p> <p>Brian Banks, pers comm, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Internally within NE, local team SSSI record. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Internally within NE, site manager of NNR. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Invertebrate Site Register - Scotland (1852-1990)</p> <p>Jennifer England record sent to NE NNR site manager. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Martin Drake survey record via Brian Banks, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>NBN Gateway data: Countryside Council for Wales GA000506Extracted by LH 19/09/2012 Welsh Invertebrate Database (WID)</p> <p>NBN Gateway data: Cumbria Biodiversity Data Centre GA000867Extracted by LH 19/09/2012 Cumbria Biodiversity Data Centre. Invertebrate Observation Records other than Lepidoptera. Pre-2010 for Cumbria</p> <p>NBN Gateway data: Dorset Environmental Records Centre GA001010Extracted by LH 19/09/2012 Dorset Important Species 2012 for Natural England use only</p> <p>NBN Gateway data: Scottish Natural Heritage GA001141Extracted by LH 19/09/2012 Recovery of the medicinal leech <i>Hirudo medicinalis</i> in Scotland - Phase II</p> <p>NBN Gateway data: South East Wales Biodiversity Records Centre GA000823Extracted by LH 19/09/2012 CCW Regional Data : South East Wales Non-sensitive Species Records</p> <p>NBN Gateway data: Sussex Biodiversity Record Centre GA001076Extracted by LH 19/09/2012 SxBRC Full dataset for Environment Agency and Natural England use only.</p> <p>Philip Eglise for RSPB, survey report, reportable thro permission, N Holt, RSPB, to NE. Sent to JNCC in final spreadsheet 5thOct2012</p> <p>Records held on CCW's invertebrate database - added by Mike Howe (CCW) 02/10/2012</p> <p>Richard Reeve, pers comm, to David Heaver, NE. Sent to JNCC in final spreadsheet 5thOct2012</p>
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2.3 Range							
2.3.1 Surface area Range	2935 The surface area of the range was calculated from the map presented in 1.1.5. For further details see the 2013 Article 17 UK Approach document.						
2.3.2 Method used Surface area of Range	Estimate based on partial data with some extrapolation and/or modelling For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.						
2.3.3 Short-term trend Period	2001-2012 For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.						
2.3.4 Short term trend Trend direction	stable The short term trend direction was derived by comparing the range map in 1.1.5 with the range map produced in the 2007 report, by considering the range trend in the 2007 report, and by considering any further information provided by the UK country conservation agencies. For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.						
2.3.5 Short-term trend Magnitude Optional	<table border="1"> <tr> <td>a) Minimum</td> <td></td> </tr> <tr> <td>b) Maximum</td> <td></td> </tr> </table>	a) Minimum		b) Maximum			
a) Minimum							
b) Maximum							
2.3.6 Long-term trend Period Optional							
2.3.7 Long-term trend Trend direction Optional							
2.3.8 Long-term trend Magnitude Optional	<table border="1"> <tr> <td>a) Minimum</td> <td></td> </tr> <tr> <td>b) Maximum</td> <td></td> </tr> </table>	a) Minimum		b) Maximum			
a) Minimum							
b) Maximum							
2.3.9 Favourable reference range	<table border="1"> <tr> <td>a) Value in km²</td> <td>2163</td> </tr> <tr> <td colspan="2">The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. For further details see the 2013 Article 17 UK Approach document.</td> </tr> <tr> <td>b) Operator for FRR</td> <td></td> </tr> </table>	a) Value in km²	2163	The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. For further details see the 2013 Article 17 UK Approach document.		b) Operator for FRR	
a) Value in km²	2163						
The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. For further details see the 2013 Article 17 UK Approach document.							
b) Operator for FRR							

	c) FRR is unknown (indicated by "true")	False
	d) Method used to set FRR	The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.
	The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.	
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?	False
	The increase in range is not thought to be genuine but is due to better data.	
	b) Improved knowledge/more accurate data?	True
	The increase in range is not thought to be genuine but is due to better data.	
	c) Use of different method (e.g. "Range tool")?	False
	The increase in range is not thought to be genuine but is due to better data.	

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
	Note, the population unit has changed from 'populations' to occupied 1km squares.	
	b) Minimum	30
	For further details see the 2013 Article 17 UK Approach document and	

	relevant country-level reporting information.
	c) Maximum 35
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
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	1998-2012
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
2.4.5 Method used Population size	Estimate based on partial data with some extrapolation and/or modelling
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
2.4.6 Short-term trend Period	2001-2012
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
2.4.7 Short-term trend Trend direction	stable
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
2.4.8 Short-term trend Magnitude Optional	a) Minimum
	b) Maximum
	c) Confidence interval
2.4.9 Short-term trend Method used	Estimate based on partial data with some extrapolation and/or modelling
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.
2.4.10 Long-term trend –	1990-2012

Period Optional	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.4.11 Long-term trend Trend direction Optional	decrease For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.4.12 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used Optional	Estimate based on expert opinion with no or minimal sampling For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	approximately equal to The FRV is approximately equal to the current population.
	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 A different population unit has been used so comparison is not applicable.
	b) Improved knowledge/more accurate data?	False A different population unit has been used so comparison is not applicable.

	c) Use of different method (e.g. "Range tool")?	False
A different population unit has been used so comparison is not applicable.		

2.5 Habitat for the species		
2.5.1 Area estimation	<p>The specific area of habitat occupied by this species in the UK is unknown.</p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</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	<p>2007-2012</p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</p>	
2.5.3 Method used Habitat for the species	<p>Absent data</p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</p>	
2.5.4 Quality of the habitat	a) Habitat quality	Moderate
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
	b) Assessment method	Presence of the species is indicative of habitat quality, and land and water management has been taken into account.
For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.		
2.5.5 Short-term trend Period	<p>2001-2012</p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</p>	
2.5.6 Short-term trend Trend direction	<p>decrease</p> <p>For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.</p>	
2.5.7 Long-term trend Period	Optional	
2.5.8 Long-term trend Trend direction	Optional	
2.5.9 Area of suitable habitat for the species	a) Value in km²	
	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
	Surface area of habitat is unknown and was reported as unknown in 2007, so no comparison is possible.	
	b) Improved knowledge/more accurate data?	False
	Surface area of habitat is unknown and was reported as unknown in 2007, so no comparison is possible.	
	c) Use of different method (e.g. "Range tool")?	False
	Surface area of habitat is unknown and was reported as unknown in 2007, so no comparison is possible.	

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance (max 5 entries) M = medium importance L = low importance	
J02: human induced changes in hydraulic conditions	H	
A04: grazing	M	
F01: Marine and Freshwater Aquaculture	M	
F02: Fishing and harvesting aquatic resources	M	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	M	X
I01: invasive non-native species	M	
M01: Changes in abiotic conditions	M	
A01: Cultivation	L	
A07: use of biocides, hormones and chemicals	L	O
H02: Pollution to groundwater (point sources and diffuse sources)	L	X

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

2.6.1 Method used – Pressures

mainly based on expert judgement and other data

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance (max 5 entries) M = medium importance L = low importance	
M01: Changes in abiotic conditions	H	
A04: grazing	M	
F01: Marine and Freshwater Aquaculture	M	
F02: Fishing and harvesting aquatic resources	M	
I01: invasive non-native species	M	
J02: human induced changes in hydraulic conditions	M	
A07: use of biocides, hormones and chemicals	L	O
F03: Hunting and collection of wild animals (terrestrial)	L	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	L	X
H02: Pollution to groundwater (point sources and diffuse sources)	L	X
K03: Interspecific faunal relations	L	

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

2.7.1 Method used – Threats

expert opinion

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

2.8 Complementary information

2.8.1 Justification of % thresholds for trends	
2.8.2 Other relevant information	
2.8.3 Trans-boundary assessment	

2.9 Conclusions (<i>assessment of conservation status at end of reporting period</i>)		
2.9.1 Range	a) Conclusion	Favourable
	Range has been assessed as Favourable because surface area of range is greater than the FRV and the short term trend is stable.	
	b) Qualifier	
2.9.2 Population	a) Conclusion	Favourable
	Population has been assessed as Favourable because the FRV is approximately equal to the current population and the short term trend is stable.	
	b) Qualifier	
2.9.3 Habitat for the species	a) Conclusion	Inadequate
	Habitat for species has been assessed as Inadequate. Although there is thought to be sufficient amount of habitat to support a viable population and the quality is moderate, the short term trend is declining.	
	b) Qualifier	declining
2.9.4 Future prospects	a) Conclusion	Favourable
	<p>Future prospects is assessed as Favourable on the basis of assessments of the future prospects of the three parameters, range, population and habitat for species:</p> <p>Range future prospects: Good</p> <p>Population future prospects: Good</p> <p>Habitat future prospects: Good</p> <p>Overall future prospects: Favourable</p> <p>Although pond quality in the UK has declined, many populations of medicinal leech are in protected sites and are well managed. It is likely that the species will continue to be viable in the future.</p>	
	b) Qualifier	

2.9.5 Overall assessment of Conservation Status	Inadequate
	The overall assessment is Inadequate because habitat for species is Inadequate.
2.9.6 Overall trend in Conservation Status	stable
	On balance, the overall trend is stable.

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	
	b) Minimum	
	c) Maximum	
3.1.2 Method used		
3.1.3 Trend of population size within the network (short-term trend) Optional		

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	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	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

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