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:

S1034 - Medicinal leech (*Hirudo medicinalis*)

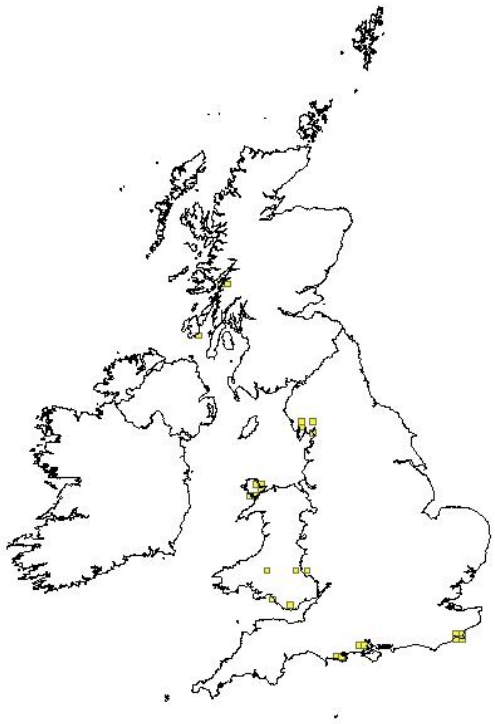
IMPORTANT NOTE – PLEASE READ

- 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

Field name	*Brief explanations*	
0.2 Species	**0.2.1 Species code**	**S1034**
	0.2.2 Species scientific name	***Hirudo medicinalis***
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	**Medicinal leech**

1.1 Maps			
1.1.1 Distribution map		**Sensitive**	**False**



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

2.1 Biogeographical region & marine regions	**ATL**
2.2 Published sources	**" Eglise.P, (2010) MEDICINAL LEECH (HIRUDO MEDICINALIS) SURVEY 2010 RSPB DUNGENESS NATURE RESERVE, RSPB. June - August 2010, unpublished report.** **Banks (2011) East Guldeford - medicinal leech, sourced at: Http://rxwildlife.org.uk/category/worms/** **Joint Nature Conservation Committee. 2007.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. Available from: www.jncc.gov.uk/article17** **Chelmick and Pickess, B.P, (2011) A further site for Medicinal Leech Hirudo medicinalis, in Dorset, Recording Dorset, No.10 November 2011.** **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** **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."**

2.3 Range		
2.3.1 Surface area Range		
2.3.2 Method used Surface area of Range	**Estimate based on partial data with some extrapolation and/or modelling**	
2.3.3 Short-term trend Period	**2001-2012**	
2.3.4 Short term trend Trend direction	**stable**	
2.3.5 Short-term trend Magnitude	**a) Minimum**	

	b) Maximum	
2.3.6 Long-term trend Period		
2.3.7 Long-term trend Trend direction		
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?**	**False**
	b) Improved knowledge/more accurate data?	**False**
	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 *(if 2.4.1 filled in)*	**a) Unit**	**number of map 1x1 km grid cells**
	A summer 2010 survey of the RSPB Dungeness Reserve (Eglise, 2010) showed very strong medicinal leech populations, with a total of 300 leeches being recorded across 76 water bodies on the reserve. One survey sample yielded 38 animals. The wider landscape around this reserve also holds this species, as evidenced by the data gathered for the Lydd Public Inquiry in 2011, and personal observations and surveys by Brian Banks (2011). The Cumbrian populations have not been as well monitored as they were in 2000, though a proposal to do so in 2012-13 is on the table. Jenny Dam SSSI and a number of other Cumbrian sites have records post 2007. Dorset has four sites (Chelmick & Pickess, 2011; MOD, 2010). Equates in all to about 25 sites as a minimum, though some are site complexes, and the Cumbrian tarns were poorly surveyed in the period. A quick re-survey of the New Forest in summer 2012 showed good populations in several of the marl pond clusters found holding them in the past, with 44 and 76 leeches being counted in a 3 pond cluster and a single one respectively. Only one of the New Forest pools (asides from one that lost its leeches many years ago) did not contain leeches.	
	b) Minimum	**15**
	c) Maximum	**15**
2.4.3 Additional information on population estimates / conversion Optional	**a) Definition of "locality"**	
	on some grazing marsh systems the eventual inter-connectedness of ditches makes the notion of separate populations tricky, even when in the next square. This probably under-represents the Cumbrian situation where as new survey is set for late 2012, and may well confirm a large population cluster in that county. The Cumbrian 2006 records are included as they were in early Autumn 2006, so nearly in the time frame. Equates to about 14 ten km squares, or 29 "locations", although the latter are hard to properly define where the water bodies are not discrete.	
	b) Method to convert data	
	c) Problems encountered to	**This species can be tricky to survey for, though in high densities readily comes to**

	provide population size estimation	**disturbance.**
2.4.4 Year or period	**2006-2012**	
2.4.5 Method used Population size	**Estimate based on partial data with some extrapolation and/or modelling**	
2.4.6 Short-term trend Period	**2001-2012**	
2.4.7 Short-term trend Trend direction	**stable**	
	The previous report founded its measurement by populations, though there was little clarity on what this was- whilst an individual pool may be said to be a population it is unclear what the large grazing marsh system of Romney marsh was counted as, asides from it being one of the two "key areas". It currently retains this status, as does the Cumbrian cluster, although recording effort at the latter has fallen resulting in a more patchy picture. The 12 ten kilometre squares given in the audit for England are currently topped by the 13 now recorded in the slightly extended record window 2006-2012; it is clear that variation in the underlying dataset confounds the picture, as does the discovery of new populations, but although the squares do not always correspond, this may well be more about recording effort than population loss. On this basis the trend is seen as stable.	
2.4.8 Short-term trend Magnitude	**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**	
2.4.10 Long-term trend – Period	**1990-2012**	
2.4.11 Long-term trend Trend direction	**decrease**	
2.4.12 Long-term trend Magnitude	**a) Minimum**	

Optional		
	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**	**87**
	This is the previous figure for "populations"; it is unclear how the reported 2 major populations and the 82 "other sites" add to up the reported 87 populations.	
	b) Operator	**approximately equal to**
	c) FRP is unknown indicated by "true"	**False**
	d) Method used to set FRP	**The previous use of "population" as the basis for favourable reference population value holds well enough for isolated water bodies such as discrete ponds, but unravels in the complex of inter-connected ditch systems such as found in the English stronghold of the Romney marshes. This resulted in the marshes being described as a "major site", underplaying its spatial significance which is captured by recourse to a 1 km sq grid approach. Trapping both scales in the audit would seem sensible.**
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?	**False**

	c) Use of different method (e.g. "Range tool")?	**False**

2.5 Habitat for the species		
2.5.1 Area estimation		
2.5.2 Year or period	**2007-2012**	
2.5.3 Method used Habitat for the species	**Estimate based on expert opinion with no or minimal sampling**	
2.5.4 Quality of the habitat	**a) Habitat quality**	**Moderate**
	b) Assessment method	**Presence of the species, essentially. The presence of large populations in at least the wider Romney Marsh area suggests good habitat quality.**
2.5.5 Short-term trend Period	**2001-2012**	
2.5.6 Short-term trend Trend direction	**decrease**	
	The Countryside Survey report in 2007 noted that only 8% of the ponds surveyed were in good condition in their survey from 1998 to 2007, or around 80% of ponds Poor or Very Poor quality; it is considered unlikley that there has been any substantive improvement in the intervening years. The condition was based on vascular plant assemblage quality, and so only a partial proxy of condition for leeches. The number of ponds has increased in some areas, with an 18.3% increase in the number of ponds in England being noted in Table 3.1, p25., with the losses being outweighed by the gains. However, any loss of leech-occupied ponds would be significant, given the fractured nature of the species distribution and the relatively low opportunities in some areas for re-colonisation. The national trend in pond quality seems in part mirroered by county results, the Herefordshire Ponds & newts survey (2008) reporting that some 56% of the surveyed ponds were in poor or average quality (p, 24, n=286)	
2.5.7 Long-term trend Period		
2.5.8 Long-term trend Trend direction		
	p11 of the Countryside Survey Report on Ponds (2010) opines that the long term trend has also been one of decline in quality.	
2.5.9 Area of suitable habitat	**a) Value in km²**	**0**

for the species	A particularly difficult assessment to make, given the large number of grazing marsh ditches and pools within the Romney marsh system, and the number of tarns that have populations in Cumbria. This has currently not been attempted. A number of pools used are small: 2 of the Dorset heathland sites have a combined water area of around 2 ha, whilst the northern sites can be much bigger (Hawes Water is 6ha, and Throng moss reservoir is some 2.6ha).It is unclear on these larger and deeper sites how much of the water column is used by medicinal leech, or whether they occupy only the area above the summer thermocline, and stay within the shallows.	
	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?	**False**
	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	
M01: Changes in abiotic conditions	H	
A04: grazing	M	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	M	
I01: invasive non-native species	M	
J02: human induced changes in hydraulic conditions	M	

Periods of drought and more erratic rainfall patterns will have stressed some leech populations, and though they seem tolerant of drought at the population level (returning after ditches have lost their standing water), where populations are low, individual animal losses become more significant. Impacts can also arise from abstractions from both surface water and ground waters. Abandonment of grazing around pools may reduce mammalian food sources and may adversely impact on wildfowl breeding (if the cover become too dense), and also surface water shading, reducing water temperatures somewhat in the shallows. This could

also, through losses to aquatic vegetation, reduce amphibian useage of the pools. Some of the New Forest pools have been taken over by Crassula (Richard Reeves, pers comm)	
2.6.1 Method used – Pressures	**mainly based on expert judgement and other data**

2.7 Threats		
a) Threat	**b) Ranking**	**c) Pollution qualifier**
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
M01: Changes in abiotic conditions	H	

The prospect of increased periods of drought could compromise the small pools and ditches within which medicinal leech is found, and although they can tolerate some level reduction in water level, total drying of pools would be damaging. This is not absolute however, as observations from Romney Marsh in 2011 pointed to recovery from formerly dried out (no standing water) ditches, though the substrate may well have remained damp (Banks, 2011).	
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	**At the start of this reporting period, Medicinal leech was removed from the UK Priority species list in the face of more populations having been discovered, an action whose consequence has been a less focused and strategic recording effort.**
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 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)		

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**