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

Fourth Report by the United Kingdom
under Article 17

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the species:

S1034 - Medicinal leech (Hirudo medicinalis)

ENGLAND
IMPORTANT NOTE - PLEASE READ

• The information in this document is a country-level contribution to the UK Report on the conservation status of this species, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.

• The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.

• The UK Report on the conservation status of this species is provided in a separate document.

• The reporting fields and options used are aligned to those set out in the European Commission guidance.

• Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.

• Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).

• For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.

• The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, https://jncc.gov.uk/article17, for further information on UK Article 17 reporting.
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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<td>1.3 Species scientific name</td>
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<th><strong>3. Information related to Annex V Species (Art. 14)</strong></th>
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<td>3.1 Is the species taken in the wild/exploited?</td>
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<tr>
<td>a) regulations regarding access to property</td>
</tr>
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<td>b) temporary or local prohibition of the taking of specimens in the wild and exploitation</td>
</tr>
<tr>
<td>c) regulation of the periods and/or methods of taking specimens</td>
</tr>
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<td>d) application of hunting and fishing rules which take account of the conservation of such populations</td>
</tr>
<tr>
<td>e) establishment of a system of licences for taking specimens or of quotas</td>
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<td>f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens</td>
</tr>
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<td>g) breeding in captivity of animal species as well as artificial propagation of plant species</td>
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<td>h) other measures</td>
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</tbody>
</table>
3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

<table>
<thead>
<tr>
<th>Season/ year</th>
<th>Min. (raw, ie. not rounded)</th>
<th>Max. (raw, ie. not rounded)</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Season/ year 1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Season/ year 2</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Season/ year 3</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Season/ year 4</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Season/ year 5</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Season/ year 6</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

3.4. Hunting bag or quantity taken in the wild Method used

England has a small number of companies providing medicinal leeches for medical needs, but all farm their own leeches and there is no trade in the small, wild populations. One company farms leeches in Slovakia and imports them into the UK.

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

4.2 Sources of information

Changes to Medicinal Leech (Hirudo medicinalis) Populations from 2013 to 2016. Unpublished RSPB Dungeness Reserve report. 2018
Buczynski.P. et al. (2014) Occurrence of the medicinal leech (Hirudo medicinalis) in birds' nests Biologia, Volume 69, Issue 4, Pages 484-488, ISSN (Online) 1336-9563, DOI: https://doi.org/10.2478/s11756-014-0329-0.
Brian Banks, Flag Ecology, pers comms.

5. Range

5.1 Surface area (km²)

5.2 Short-term trend Period

5.3 Short-term trend Direction

Stable (0)
### 6. Population

#### 6.1 Year or period

2013-2018

#### 6.2 Population size (in reporting unit)

- **a) Unit**: number of map 1x1 km grid cells (grids1x1)
- **b) Minimum**: 15
- **c) Maximum**: 46
- **d) Best single value**: 16

#### 6.3 Type of estimate

Best estimate

#### 6.4 Additional population size (using population unit other than reporting unit)

- **a) Unit**: number of map 10x10 km grid cells (grids10x10)
- **d) Best single value**: 13

#### 6.5 Type of estimate

Best estimate

#### 6.6 Population size Method used

Based mainly on extrapolation from a limited amount of data

#### 6.7 Short-term trend Period

2007-2018

#### 6.8 Short-term trend Direction

Stable (0)

#### 6.9 Short-term trend Magnitude

- **a) Minimum**
- **b) Maximum**
- **c) Confidence interval**

### 6.10 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

#### 6.11 Long-term trend Period

1995-2018

#### 6.12 Long-term trend Direction

Decreasing (-)

#### 6.13 Long-term trend Magnitude

- **a) Minimum**
- **b) Maximum**
- **c) Confidence interval**
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6.14 Long-term trend Method used
Based mainly on extrapolation from a limited amount of data

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

6.16 Change and reason for change in population size
No change
The change is mainly due to:

6.17 Additional information

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat
a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)? Yes
b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?

7.2 Sufficiency of area and quality of occupied habitat Method used
Based mainly on extrapolation from a limited amount of data

7.3 Short-term trend Period
2007-2018

7.4 Short-term trend Direction
Increasing (+)

7.5 Short-term trend Method used
Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend Period
1995-2018

7.7 Long-term trend Direction
Decreasing (-)

7.8 Long-term trend Method used
Based mainly on expert opinion with very limited data

7.9 Additional information

8. Main pressures and threats

8.1 Characterisation of pressures/threats

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other invasive alien species (other then species of Union concern) (I02)</td>
<td>M</td>
</tr>
<tr>
<td>Droughts and decreases in precipitation due to climate change (N02)</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threat</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other invasive alien species (other then species of Union concern) (I02)</td>
<td>H</td>
</tr>
<tr>
<td>Droughts and decreases in precipitation due to climate change (N02)</td>
<td>H</td>
</tr>
</tbody>
</table>

8.2 Sources of information
Crassula helmsi domination of leech ditches was noted, leading to localised loss of those sites for leeches (RSPB, 2018). This impact persists in some New
Forest ponds, as noted in the 3rd report, and by Aquilina (2016) for the 4th of the 4 leech ponds there. This local pressure has been noted in the naturally dry SE areas of the UK, especially in the Lydd area by Dungeness, where some leech ditches dry down in the absence of rainfall.

9. Conservation measures

<table>
<thead>
<tr>
<th>9.1 Status of measures</th>
<th>a) Are measures needed?</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b) Indicate the status of measures</td>
<td>Measures identified and taken</td>
</tr>
</tbody>
</table>

9.2 Main purpose of the measures taken

- Restore the habitat of the species (related to ‘Habitat for the species’)

9.3 Location of the measures taken

- Both inside and outside Natura 2000

9.4 Response to the measures

- Medium-term results (within the next two reporting periods, 2019-2030)

9.5 List of main conservation measures

- Reduce diffuse pollution to surface or ground waters from agricultural activities (CA11)
- Manage other native species (CS04)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

- a) Range
- b) Population
- c) Habitat of the species

10.2 Additional information

11. Conclusions

11.1. Range
11.2. Population
11.3. Habitat for the species
11.4. Future prospects
11.5 Overall assessment of Conservation Status
11.6 Overall trend in Conservation Status
11.7 Change and reasons for change in conservation status and conservation status trend

- a) Overall assessment of conservation status
  - No change
  - The change is mainly due to:
- b) Overall trend in conservation status
  - No change
  - The change is mainly due to:
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11.8 Additional information

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

12.2 Type of estimate

12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information
Figure 1: UK distribution map for S1034 - Medicinal leech (*Hirudo medicinalis*). Coastline boundary derived from the Oil and Gas Authority’s OGA and Lloyd’s Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available species records within the current reporting period. For further details see the 2019 Article 17 UK Approach document.
The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this species was 20km. For further details see the 2019 Article 17 UK Approach document.
**Species name:** Hirudo medicinalis (1034) **Region code:** ATL

<table>
<thead>
<tr>
<th>Field label</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2 Population size</td>
<td>The range span from minimum to maximum is large as the upper figure is set on the Cumbrian dataset of 2000 and the new survey 2018 report has not been made available so it is hard to assess how much of that resource is still extant. I have gone for the lower bound as a precaution.</td>
</tr>
<tr>
<td>6.3 Type of estimate</td>
<td>The 3 main English population centres remain, though for the 4th report we now have a better understanding of the Cumbrian population centre. This comes from tracking down earlier survey information (actually having the missing report re-formulated by the authors, Marshall (1999)), as well as some updated survey information. The Dorset new Forest population pond cluster appears to be stable, though one of the 4 ponds there returned zero leeches when sampled. As this species can be difficult to survey for, this should not be taken as a true loss from this pond. The large population cluster at Dungeness remains strong and has been re-surveyed by the RSPB. Additional data from the nearby Lydd airport landscape further strengthens this area as very important for this species.</td>
</tr>
<tr>
<td>6.8 Short term trend; Direction</td>
<td>The two main population clusters hold ground. A suspected population in the Peak District ended up being Horse leech Haemopis sanguisuga when properly surveyed, whilst a new medicinal leech population was reported in a conversation about Gait Barrows SSSI in 2018. The large Cumbrian population cluster, comprising some 32 monads has had its report re-made after an apparent loss of the original, and the sites within it have been partially re-survyed, although these data have not been possible to access. It is considered that there has been some population stability given the nature of those sites. The New Forest ponds had a slight dip with the species not being found in one pond, though this does not equate to loss, as it remains hard to detect sometimes. The central belt of England looks free of the species, so it continues with a disjunct population.</td>
</tr>
<tr>
<td>6.12 Long term trend; Direction</td>
<td>This period pretty much saw the polarisation of this species into the two main population centres of Dungeness and the Cumbrian Tarns, with losses in the central English belt.</td>
</tr>
<tr>
<td>7.2 Sufficiency of area and quality of occupied habitat; Method used</td>
<td>Whilst the leech ponds themselves look, overall, in reasonable condition, the ability to spread to new water bodies continues to be challenging with respect to water quality.</td>
</tr>
<tr>
<td>7.4 Short term trend; Direction</td>
<td>The upswing is probably slight, given that the 2007 Countryside Survey of the UK, found that 80% of UK ponds were in Poor or Very Poor condition. It would be wrong not to consider the pond initiatives that have taken place since then, however, have made no difference.</td>
</tr>
<tr>
<td>7.7 Long term trend; Direction</td>
<td>The losses in pond quality outlined in the 2007 national UK report, covering the period 1996-2007 (although the early reports only dealt with lowland pond water quality), demonstrated such a low quality base, that substantial improvements since have probably not offset the losses. Opinion suggests that the conservation effort will have altered the magnitude of the downward trend, but that the trend will remain down, especially for isolated agricultural ponds. The leech ponds may have fared a little better, given that NBN Atlas mapping for the period 1900-1961 shows many locations that are no longer considered extant, pointing to a retreat to the areas it now occupies.</td>
</tr>
<tr>
<td>9.2 Main purpose of the measures taken</td>
<td>Conservation work for this species very much revolves around habitat management, especially at the RSPB reserve at Dungeness. This site, with its direct conservation drive to improve breeding bird populations, will favour leeches, as they utilise bird nests as feeding locations, as noted by Buczynski et al (2014).</td>
</tr>
</tbody>
</table>
The Dungeness population cluster is mostly well managed, and surveyed, whilst the refresh survey of the Cumbrian population cluster should lead to more action in the future, so it is assumed this will bear fruit within the next two reporting periods.