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

Conservation status assessment for the species:

S1099 - River lamprey (*Lampetra fluviatilis*)

UNITED KINGDOM
IMPORTANT NOTE - PLEASE READ

• The information in this document represents 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.

• It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.

• The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.

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

• Maps showing the distribution and range of the species are included (where available).

• Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level reports.

• 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; and/or (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species).

• The UK-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)

<table>
<thead>
<tr>
<th>NATIONAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General information</td>
</tr>
<tr>
<td>1.1 Member State</td>
</tr>
<tr>
<td>1.2 Species code</td>
</tr>
<tr>
<td>1.3 Species scientific name</td>
</tr>
<tr>
<td>1.4 Alternative species scientific name</td>
</tr>
<tr>
<td>1.5 Common name (in national language)</td>
</tr>
</tbody>
</table>

| 2. Maps |
| 2.1 Sensitive species | No |
| 2.2 Year or period | 1990-2018 |
| 2.3 Distribution map | Yes |
| 2.4 Distribution map Method used | Based mainly on extrapolation from a limited amount of data |
| 2.5 Additional maps | No |

| 3. Information related to Annex V Species (Art. 14) |
| 3.1 Is the species taken in the wild/exploited? | Yes |
| 3.2 Which of the measures in Art. 14 have been taken? |
| a) regulations regarding access to property | No |
| b) temporary or local prohibition of the taking of specimens in the wild and exploitation | No |
| c) regulation of the periods and/or methods of taking specimens | No |
| d) application of hunting and fishing rules which take account of the conservation of such populations | No |
| e) establishment of a system of licences for taking specimens or of quotas | No |
| f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens | No |
| g) breeding in captivity of animal species as well as artificial propagation of plant species | No |
| h) other measures | No |
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

<table>
<thead>
<tr>
<th>a) Unit</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>b) Statistics/quantity taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Season/ year</th>
<th>Season/ year</th>
<th>Season/ year</th>
<th>Season/ year</th>
<th>Season/ year</th>
<th>Season/ year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. (raw, ie. not rounded)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. (raw, ie. not rounded)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>No</td>
<td>No</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

Lamprey fisheries are subject to exploitation controls. There is currently only one licenced river lamprey fishery, in the Humber catchment in England. The primary legislation for the regulation of lamprey exploitation is the Salmon and Freshwater Fishery Act 1975 and the Marine and Coastal Access Act 2009. Under this legislation the Environment Agency has powers to licence netting/trapping of lamprey. Fishery byelaws regulate when, where and how fishing can take place. The licencing approach limits the number of licenced individuals, gear and effort. As part of this managed exploitation, pressure on the population can be controlled and data can be collected on lamprey stocks. There has been no exploitation in Scotland, Wales or Northern Ireland during the reporting period.

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

England


anthropogenic barriers to movement.

Common Standards Monitoring Guidance for Freshwater Fauna 2015
Common Standards Monitoring Guidance for Rivers 2014


Mainstone C.P. 2008. The role of specially designated wildlife sites in freshwater
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

conservation - an English perspective. Freshwater Reviews, 1, 89-98.


Masters, J. EA River Lamprey catch returns pers. comm.
Reynolds, J.D. 2011. A review of ecological interactions between crayfish and
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

fish, indigenous and introduced. Knowledge and Management of Aquatic Ecosystems. 401, 10


Scotland


IAFG. 2017. UK Article 17 reporting procedure for estimating population using 1 km square resolution records data. Inter-agency Freshwater Group, UK.


Wales

Angling Times. 2017. The best dead baits to use when angling for pike. Dead baiting is the number one pike tactic in the UK.
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

https://www.anglingtimes.co.uk/advice/bait/articles/the-best-deadbaitsto-use-whenpikefishing [Accessed 10 April 2018]


Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

Hatton-Ellis TW. 2017. Article 17: Management of Lampetra species records in the context of reporting range and population for brook lamprey / Lampetra fluviatilis and river lamprey / Lampetra planeri. NRW. Unpub. Bangor.


5. Range

5.1 Surface area (km²)

60142.12

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Stable (0)

5.4 Short-term trend Magnitude

a) Minimum

b) Maximum

Based mainly on extrapolation from a limited amount of data

5.5 Short-term trend Method used

5.6 Long-term trend Period

b) Maximum

9
### 5. Population

#### 5.7 Long-term trend Direction

<table>
<thead>
<tr>
<th>a) Minimum</th>
<th>b) Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 5.8 Long-term trend Magnitude

<table>
<thead>
<tr>
<th>a) Area (km²)</th>
<th>b) Operator</th>
<th>c) Unknown</th>
<th>d) Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 5.9 Long-term trend Method used

- Approximate equal to (≈)

#### 5.10 Favourable reference range

- The FRR has changed since 2013. An FRR operator has been used because it has not been possible to calculate the exact FRR. The FRR is considered to be sufficient to maintain a viable population and is no less that when the Habitats Directive came into force in the UK. For further details see the 2019 Article 17 UK Approach document.

#### 5.11 Change and reason for change in surface area of range

- Use of different method
- The change is mainly due to:

#### 5.12 Additional information

- The current range surface area calculation does not represent the real range surface area. Change in availability of underpinning mapping data has resulted in an apparent decrease in range area compared to 2013, but this is not due to genuine change. Expert opinion considers the trend in range to be stable. The real range surface area is considered to be the range in 2013 - 77,968km². The FRR has been changed to an operator 'approximately equal to current' to reflect this. For further information see the 2019 Article 17 UK Approach document.

### 6. Population

#### 6.1 Year or period

- 1990-2018

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

<table>
<thead>
<tr>
<th>a) Unit</th>
<th>b) Minimum</th>
<th>c) Maximum</th>
<th>d) Best single value</th>
</tr>
</thead>
<tbody>
<tr>
<td>number of map 1x1 km grid cells (grids1x1)</td>
<td></td>
<td></td>
<td>1019</td>
</tr>
</tbody>
</table>

#### 6.3 Type of estimate

- Minimum

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

<table>
<thead>
<tr>
<th>a) Unit</th>
<th>b) Minimum</th>
<th>c) Maximum</th>
<th>d) Best single value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 6.5 Type of estimate

- Based mainly on extrapolation from a limited amount of data

#### 6.6 Population size Method used

- 2006-2018

#### 6.7 Short-term trend Period

- Unknown (x)

#### 6.8 Short-term trend Direction

<table>
<thead>
<tr>
<th>a) Minimum</th>
<th>b) Maximum</th>
<th>c) Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.12 Long-term trend Direction

The FRP has changed since 2013. An FRP operator has been used because it has not been possible to calculate the exact FRP. The FRP is considered to be large enough to maintain a viable population and is no less that when the Habitats Directive came into force in the UK. For further details see the 2019 Article 17 UK Approach document.

6.13 Long-term trend Magnitude

There is insufficient data to complete a robust population assessment. This is because across the countries of the UK there is no systematic survey of river lamprey, and records are largely incidental. Assessment is further complicated by the highly similar morphology of river and brook lamprey which often precludes identification of lamprey to the species level.

6.14 Long-term trend Method used

The change is mainly due to: Improved knowledge/more accurate 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

There is insufficient data to complete a robust population assessment. This is because across the countries of the UK there is no systematic survey of river lamprey, and records are largely incidental. Assessment is further complicated by the highly similar morphology of river and brook lamprey which often precludes identification of lamprey to the species level.

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2001-2018

Unknown (x)

7.4 Short-term trend Direction

Insufficient or no data available

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

River lamprey have complex habitat requirements and little is known about sufficiency of the habitat for the species. However, access restrictions (due to physical barriers) to historical river habitat combined with poor water quality are thought to have been responsible for the low numbers of river lamprey within
Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

English rivers.

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>Agricultural activities generating point source pollution to surface or ground waters (A25)</td>
<td>M</td>
</tr>
<tr>
<td>Agricultural activities generating diffuse pollution to surface or ground waters (A26)</td>
<td>H</td>
</tr>
<tr>
<td>Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)</td>
<td>M</td>
</tr>
<tr>
<td>Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)</td>
<td>M</td>
</tr>
<tr>
<td>Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)</td>
<td>H</td>
</tr>
<tr>
<td>Drainage (K02)</td>
<td>M</td>
</tr>
<tr>
<td>Development and operation of dams (K03)</td>
<td>M</td>
</tr>
<tr>
<td>Modification of hydrological flow (K04)</td>
<td>M</td>
</tr>
<tr>
<td>Physical alteration of water bodies (K05)</td>
<td>M</td>
</tr>
<tr>
<td>Change of habitat location, size, and / or quality due to climate change (N05)</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threat</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural activities generating point source pollution to surface or ground waters (A25)</td>
<td>M</td>
</tr>
<tr>
<td>Agricultural activities generating diffuse pollution to surface or ground waters (A26)</td>
<td>M</td>
</tr>
<tr>
<td>Wind, wave and tidal power, including infrastructure (D01)</td>
<td>M</td>
</tr>
<tr>
<td>Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)</td>
<td>M</td>
</tr>
<tr>
<td>Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)</td>
<td>M</td>
</tr>
<tr>
<td>Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)</td>
<td>H</td>
</tr>
<tr>
<td>Development and operation of dams (K03)</td>
<td>M</td>
</tr>
<tr>
<td>Modification of hydrological flow (K04)</td>
<td>M</td>
</tr>
<tr>
<td>Physical alteration of water bodies (K05)</td>
<td>M</td>
</tr>
<tr>
<td>Change of habitat location, size, and / or quality due to climate change (N05)</td>
<td>M</td>
</tr>
</tbody>
</table>

8.2 Sources of information

8.3 Additional information
# Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

## 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>

<table>
<thead>
<tr>
<th>9.2 Main purpose of the measures taken</th>
<th>Maintain the current range, population and/or habitat for the species</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3 Location of the measures taken</td>
<td>Both inside and outside Natura 2000</td>
</tr>
<tr>
<td>9.4 Response to the measures</td>
<td>Medium-term results (within the next two reporting periods, 2019-2030)</td>
</tr>
</tbody>
</table>

### 9.5 List of main conservation measures

- Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)
- Other measures related to agricultural practices (CA16)
- Reduce impact of transport operation and infrastructure (CE01)
- Reduce/eliminate point source pollution to surface or ground waters from industrial, commercial, residential and recreational areas and activities (CF04)
- Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)
- Other measures related to residential, commercial, industrial and recreational infrastructures, operations and activities (CF12)
- Reduce impact of other specific human actions (CH03)
- Reduce impact of mixed source pollution (CJ01)
- Reduce impact of multi-purpose hydrological changes (CJ02)
- Restore habitats impacted by multi-purpose hydrological changes (CJ03)

### 9.6 Additional information

## 10. Future prospects

<table>
<thead>
<tr>
<th>10.1 Future prospects of parameters</th>
<th>a) Range</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b) Population</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>c) Habitat of the species</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

### 10.2 Additional information

Future trend of Range is Overall stable; Future trend of Population is Overall stable; and Future trend of Habitat for the species is Overall stable. For further information on how future trends inform the Future Prospects conclusion see the 2019 Article 17 UK Approach document.

## 11. Conclusions

<table>
<thead>
<tr>
<th>11.1. Range</th>
<th>Favourable (FV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.2. Population</td>
<td>Favourable (FV)</td>
</tr>
<tr>
<td>11.3. Habitat for the species</td>
<td>Unknown (XX)</td>
</tr>
<tr>
<td>11.4. Future prospects</td>
<td>Favourable (FV)</td>
</tr>
<tr>
<td>11.5 Overall assessment of Conservation Status</td>
<td>Favourable (FV)</td>
</tr>
</tbody>
</table>
**11.6 Overall trend in Conservation Status**

Unknown (x)

**11.7 Change and reasons for change in conservation status and conservation status trend**

- **a) Overall assessment of conservation status**
  - Improved knowledge/more accurate data
  - The change is mainly due to: Improved knowledge/more accurate data

- **b) Overall trend in conservation status**
  - No information on nature of change
  - The change is mainly due to:

**11.8 Additional information**

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in Population size is unknown; and (ii) the current Population size is approximately equal to the Favourable Reference Population.

Conclusion on Habitat for the species reached because: (i) the area of habitat is unknown and (ii) the habitat quality is unknown for the long-term survival of the species; and (iii) the short-term trend in area of habitat is unknown.

Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Population are good; and (iii) the Future prospects for Habitat for the species are unknown.

Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Population - stable, and Habitat for the species - unknown. Overall assessment of Conservation Status has changed between 2013 and 2019 because the conclusion for Population has changed from Unfavourable-inadequate to Favourable, the conclusion for Habitat for the species has changed from Favourable to Unknown and the conclusion for Future Prospects has changed from Unfavourable-inadequate to Favourable.

The Overall trend in Conservation Status has changed between 2013 and 2019 because the Population trend has changed from stable to unknown, the Habitat for the species trend has changed from stable to unknown. [note that the reason for change is due to less information/accuracy or certainty in the information available].

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

<table>
<thead>
<tr>
<th>12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)</th>
<th>a) Unit</th>
<th>number of map 1x1 km grid cells (grids1x1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b) Minimum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Maximum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Best single value</td>
<td>324</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.2 Type of estimate</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Based mainly on extrapolation from a limited amount of data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.3 Population size inside the network Method used</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unknown (x)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.4 Short-term trend of population size within the network Direction</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unknown (x)</td>
</tr>
</tbody>
</table>
13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

12.5 Short-term trend of population size within the network Method used Insufficient or no data available

12.6 Additional information
Figure 1: UK distribution map for S1099 - River lamprey (*Lampetra fluviatilis*). 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.
Figure 2: UK range map for S1099 - River lamprey (*Lampetra fluviatilis*). 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 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 25km. For further details see the 2019 Article 17 UK Approach document.