

**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:

S1095 - Sea lamprey (*Petromyzon marinus*)

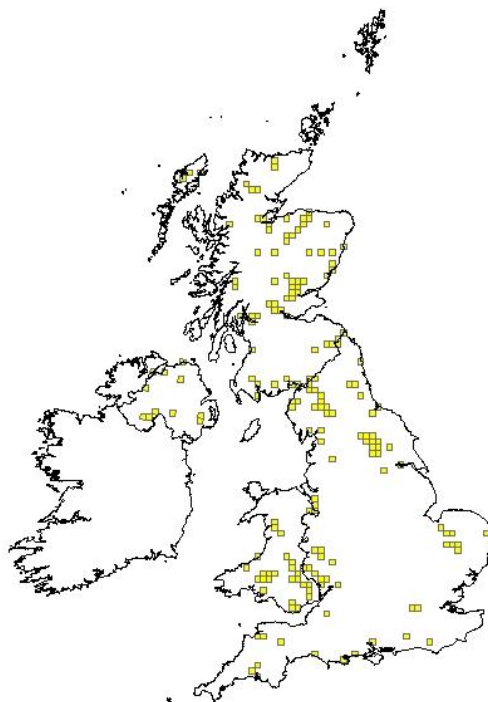
**IMPORTANT NOTE – PLEASE READ**

- 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 **Northern Ireland Environment Agency** and refers only to the state of the habitat/species in **Northern Ireland** - 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

<i>Field name</i>	<i>Brief explanations</i>	
<b>0.2 Species</b>	<b>0.2.1 Species code</b>	<b>S1095</b>
	<b>0.2.2 Species scientific name</b>	<b><i>Petromyzon marinus</i></b>
	<b>0.2.3 Alternative species scientific name</b> Optional	
	<b>0.2.4 Common name</b> Optional	<b>Sea Lamprey</b>

<b>1.1 Maps</b>		
<b>1.1.1 Distribution map</b>		<b>Sensitive</b> <b>False</b>
	<p>At a 10-km square resolution, the current Database for the Atlas of Freshwater Fishes, does not provide an updated data source for sea lamprey in NI. Records have been used from CEDaR, the Loughs Agency, NIEA and Goodwin et al (2009) to inform the current assessment. For the assessment, records from date range (2007-2012) have been used to map current extent of occurrence. Based on the fact that alot of the records are based on sightings and not via quantitative survey data</p> <p>Based on the fact that alot of data presented in via sightings and not actual quantitative survey data, data quality has been reported as moderate, rather than good</p>	



<b>1.1.2 Method used - map</b>	<b>Estimate based on partial data with some extrapolation and/or</b>
--------------------------------	--

	<b>modelling</b>
<b>1.1.3 Year or period</b>	<b>2007-2012</b>
	2007-2012
<b>1.1.4 Additional distribution map</b>	<b>False</b>
<b>1.1.5 Range map</b>	

<b>2.1 Biogeographical region &amp; marine regions</b>	<b>ATL</b>
<b>2.2 Published sources</b>	<p>"Goodwin, C.E., Dick, J.T.A., Elwood, R.W. 2009. A preliminary assessment of the distribution of the sea lamprey (<i>Petromyzon marinus</i> L.), river lamprey (<i>Lampetra fluviatilis</i> (L.)) and brook lamprey (<i>Lampetra planeri</i> (Bloch)) in Northern Ireland. <i>Biology and Environment: Proceedings of the Royal Irish Academy</i> 109B, 47-52; DOI: 10.3318/BIOE.2009. 109.1.47.</p> <p>Loughs Agency (2010). <i>Lamprey Baseline Surveys: River Finn and River Deele Co Donegal</i>. Loughs Agency of the Foyle Carlingford and Irish Lights Commission. Report Ref: LA/Lamprey/04&amp;09/11.</p> <p>Loughs Agency (2011). <i>Water Framework Directive Fish in Rivers Classification Report</i>. Loughs Agency of the Foyle Carlingford and Irish Lights Commission. Report Ref: LA/WFDFIRNI/11.</p> <p><b>Map Data Sources</b>  <b>GB records:</b>  <b>Biological Records Centre - Database for the Atlas of Freshwater Fishes (2004) (via NBN Gateway)"</b></p>

<b>2.3 Range</b>	
<b>2.3.1 Surface area Range</b>	<p><b>700</b></p> <p>Lamprey spp. are wide spread throughout the river catchments of NI. In the current assessment sea lamprey were only present in one river catchment (Goodwin et al 2009). Other records have come via observations and trapping. Using existing/available data (inc. 7 entries within the reporting period) and relating it to individual 10k squares only, the range has been determined to be 700km<sup>2</sup>.</p>
<b>2.3.2 Method used Surface area of Range</b>	<p><b>Estimate based on partial data with some extrapolation and/or modelling</b></p> <p>2 - Estimate based on partial data with some extrapolation and/or modelling</p>

	At a 10-km square resolution, the current Database for the Atlas of Freshwater Fishes, does not provide an updated data source for river lamprey in NI. Records have been used from CEDaR, the Loughs Agency, NIEA and Goodwin et al (2009) to inform the current assessment. For the assessment, records from date range (2007-2012) have been used to map current extent of occurrence.	
<b>2.3.3 Short-term trend Period</b>	<b>2001-2012</b>	
	2001-2012	
<b>2.3.4 Short term trend Trend direction</b>	<b>stable</b>	
	Unknown - current data not comparable with records reported previously - perhaps due to sampling effort or use of old sighting records	
<b>2.3.5 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
<b>2.3.6 Long-term trend Period</b>	<b>1988-2012</b>	
	1988-2012	
<b>2.3.7 Long-term trend Trend direction</b>	<b>unknown</b>	
	Unknown - general lack of historic data for NI	
<b>2.3.8 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
<b>2.3.9 Favourable reference range</b>	<b>a) Value in km<sup>2</sup></b>	
	<b>b) Operator for FRR</b>	
	<b>c) FRR is unknown (indicated by "true")</b>	<b>True</b>
	Unknown - general lack of survey data and understanding of sea lamprey distribution in NI. Targetted surveys (as per Scotland) would be required before assessing this in any detail.	
<b>d) Method used to set FRR</b>	<b>Unknown - general lack of survey data and understanding of sea lamprey distribution in NI. Targetted surveys (as</b>	

		<b>per Scotland) would be required before assessing this in any detail.</b>
<b>2.3.10 Reason for change</b> Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/ more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.4 Population</b>		
<b>2.4.1 Population size estimation</b> (using individuals or agreed exceptions where possible)	<b>a) Unit</b>	
	<b>b) Minimum</b>	
	<b>c) Maximum</b>	
<b>2.4.2 Population size estimation</b> (using population unit other than individuals) Optional ( <i>if 2.4.1 filled in</i> )	<b>a) Unit</b>	<b>number of map 1x1 km grid cells</b>
		Unknown - general lack of historic data for NI and not possible to extrapolate using existing data and observations of sea lamprey in NI The 2007 to 2012 grids10x10 locations was compiled using the results of surveys undertaken by the NI Loughs Agency with in the Foyle and Carlingford catchments.
	<b>b) Minimum</b>	<b>3</b>
		Min values is derived from records of where the lamprey has being identified to species level.
	<b>c) Maximum</b>	<b>3</b>
		Min values is derived from records of where the lamprey has being identified to species level.
<b>2.4.3 Additional information on population estimates / conversion</b> Optional	<b>a) Definition of "locality"</b>	<b>Presence of juvenile Sea lamprey in grids10x10</b>
	<b>b) Method to convert data</b>	

	<b>c) Problems encountered to provide population size estimation</b>	<b>Lack of survey and historical data for lamprey in NI (for comparison).</b>
	Lack of historical survey data in NI	
<b>2.4.4 Year or period</b>	<b>2007-2012</b>	
	2007-2012	
<b>2.4.5 Method used Population size</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	
	Absent data	
<b>2.4.6 Short-term trend Period</b>	<b>2001-2012</b>	
	2001-2012	
<b>2.4.7 Short-term trend Trend direction</b>	<b>unknown</b>	
	Unknown - insufficient information to make assessment	
<b>2.4.8 Short-term trend Magnitude</b>	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	
<b>2.4.9 Short-term trend Method used</b>	<b>Absent data</b>	
	Absent data	
<b>2.4.10 Long-term trend – Period</b>	<b>1988-2012</b>	
	1988-2012	
<b>2.4.11 Long-term trend Trend direction</b>	<b>unknown</b>	
	Unknown - insufficient information to make assessment	
<b>2.4.12 Long-term trend Magnitude</b>  Optional	<b>a) Minimum</b>	
	<b>b) Maximum</b>	
	<b>c) Confidence interval</b>	

<b>2.4.13 Long term trend Method used</b>	<b>0</b>	
	Absent data	
<b>2.4.14 Favourable reference population</b>	<b>a) Number of individuals/agreed exceptions/other units</b>	
	<b>b) Operator</b>	
	Unknown - general lack of survey data and understanding of sea lamprey distribution in NI. Targetted surveys (as per Scotland) would be required before assessing this in any detail.	
	<b>c) FRP is unknown indicated by "true"</b>	<b>True</b>
	<b>d) Method used to set FRP</b>	<b>Unknown - general lack of survey data and understanding of sea lamprey distribution in NI. Targetted surveys (as per Scotland) would be required before assessing this in any detail.</b>
<b>2.4.15 Reason for change</b> Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	<b>a) Genuine change?</b>	<b>False</b>
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

<b>2.5 Habitat for the species</b>	
<b>2.5.1 Area estimation</b>	Unknown - insufficient information to make assessment  It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.
<b>2.5.2 Year or period</b>	<b>2007-2012</b> 2007-2012
<b>2.5.3 Method used</b>	<b>Absent data</b>

<b>Habitat for the species</b>	Estimate based on partial data with some extrapolation - notably observations and trapping records of adult sea lamprey	
<b>2.5.4 Quality of the habitat</b>	<b>a) Habitat quality</b>	<b>Moderate</b>
	Lack of information on habitat quality for NI, however based on the entries for sea lamprey (inc. observations and trapping), habitat is generally considered to be of moderate quality in NI (especially within catchments that are directly connected to the sea, have tidal estuaries and suitable spawning habitat in the lower river reaches).  In NI sea lampreys appear to be restricted to areas of large rivers close to the coast or loughs, as sightings were made in the Foyle, Lagan, Neagh, Mourne and South Armagh, and Roe catchments (Goodwin et al 2009).	
	<b>b) Assessment method</b>	<b>Lack of information on habitat quality for NI, however based on the entries for sea lamprey (inc. observations and trapping), habitat is generally considered to be of moderate quality in NI (especially within catchments that are directly connected to the sea, have tidal estuaries and suitable spawning habitat in the lower river reaches).</b>  <b>In NI sea lampreys appear to be restricted to areas of large rivers close to the coast or loughs, as sightings were made in the Foyle, Lagan, Neagh, Mourne and South Armagh, and Roe catchments (Goodwin et al 2009).</b>
<b>2.5.5 Short-term trend Period</b>	<b>2001-2012</b> 1988-2012	
<b>2.5.6 Short-term trend Trend direction</b>	<b>unknown</b>	
<b>2.5.7 Long-term trend Period</b>	<b>1988-2012</b>	
<b>2.5.8 Long-term trend Trend direction</b>	<b>unknown</b>	
	Unknown - insufficient information to make assessment	
<b>2.5.9 Area of suitable habitat for the species</b>	<b>a) Value in km<sup>2</sup></b>	
	<b>b) Absence of data indicated as '0'</b>	
<b>2.5.10 Reason for change</b> Is the difference between the	<b>a) Genuine change?</b>	<b>False</b>



value reported at 2.5.1 and the previous reporting round mainly due to		
	<b>b) Improved knowledge/more accurate data?</b>	<b>False</b>
	<b>c) Use of different method (e.g. "Range tool")?</b>	<b>False</b>

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A01: Cultivation	H	N
A08: Fertilisation	H	N
E01: Urbanised areas, human habitation	H	X
J02: human induced changes in hydraulic conditions	H	X
D01: Roads, paths and railroads	M	X
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	M	X

A01 - Cultivation A08 - Fertilisation D01 - Roads, paths and railroads E01 - Urbanised areas, human habitation H01 - Pollution to surface waters (limnic&terrestrial, marine & brackish) J02 - Human induced changes in hydraulic conditions	
<b>2.6.1 Method used – Pressures</b>	<b>mainly based on expert judgement and other data</b>
	2 - 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	
A01: Cultivation	H	N
A08: Fertilisation	H	N

E01: Urbanised areas, human habitation	H	X
J02: human induced changes in hydraulic conditions	H	X
D01: Roads, paths and railroads	M	X
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	M	X

A01 - Cultivation

A08 - Fertilisation

D01 - Roads, paths and railroads

E01 - Urbanised areas, human habitation

H01 - Pollution to surface waters (limnic&amp;terrestrial, marine &amp; brackish)

J02 - Human induced changes in hydraulic conditions

**2.7.1 Method used – Threats****expert opinion**

1 - expert opinion

**2.8 Complementary information****2.8.1 Justification of % thresholds for trends****2.8.2 Other relevant information**

**Poor future prospects (next 12 years and in 2025). Trends have not been determined, as there is nothing for analysis, and there is a lack of survey/historical data for NI.**

**Species likely to struggle unless conditions change (notably pressures and threats that are related to the water environment). For NI this has been related to extensive agriculture, road surface water runoff, urbanisation, pollution of surface waters, and ease of migration over man-made structures - even those that are considered suitable for migration of salmonids).**

**An additional threat to sea lamprey is the risk associated with water intakes, and particularly those associated with powerstations and other industrial processes. Current records are available from relevant powerstation impingement studies (Ballylumford and Coolkeeragh).**

***P. marinus* is listed under Annex II of the Habitats Directive, and is a priority species under the UK Biodiversity Action Plan and in NI.**

	<b>At present there are no designated sites for <i>P. marinus</i> in NI.</b>
	<p>Poor future prospects (next 12 years and in 2025). Trends have not been determined, as there is nothing for analysis, and there is a lack of survey/historical data for NI.</p> <p>Species likely to struggle unless conditions change (notably pressures and threats that are related to the water environment). For NI this has been related to extensive agriculture, road surface water runoff, urbanisation, pollution of surface waters, and ease of migration over man-made structures - even those that are considered suitable for migration of salmonids).</p> <p>An additional threat to sea lamprey is the risk associated with water intakes, and particularly those associated with powerstations and other industrial processes. Current records are available from relevant powerstation impingement studies (Ballylumford and Coolkeeragh).</p>
<b>2.8.3 Trans-boundary assessment</b>	

### 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*)

<b>3.1 Population</b>		
<b>3.1.1 Population size</b>  Estimation of population size included in the SAC network	<b>a) Unit</b>	<b>number of map 1x1 km grid cells</b>
	grids 10x10 - primary entries from Goodwin et al (2009) and the Loughs Agency Refer to 2.4.2a	
	<b>b) Minimum</b>	<b>2</b>
	Refer to 2.4.2b	
	<b>c) Maximum</b>	<b>2</b>
Refer to 2.4.2c		
<b>3.1.2 Method used</b>	<b>Estimate based on partial data with some extrapolation and/or modelling</b>	

<b>3.1.3 Trend of population size within the network</b> (short-term trend)	<b>unknown</b>
	Unknown

<b>3.2 Conservation measures</b>															
Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.															
<b>3.2.1 Measure</b>	<b>3.2.2 Type</b>					<b>3.2.3 Ranking</b>  H = high importance M = medium importance L = low importance	<b>3.2.4 Location</b>  where the measure is PRIMARILY applied			<b>3.2.5 Broad evaluation of the measure</b>					
	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
2.0: Other agriculture-related measures	Y					H			Y			Y			
4.1: Restoring/improving water quality	Y					H			Y			Y			
4.2: Restoring/improving the hydrological regime	Y					M			Y			Y			
4.3: Managing water abstraction	Y					H			Y			Y			
6.3: Legal protection of habitats and species	Y					H			Y			Y			

7.4: Specific single species or species group management measures	Y					H			Y			Y			
8.1: Urban and industrial waste management	Y					H			Y			Y			
8.2: Specific management of traffic and energy transport systems	Y					M			Y			Y			

2.0 - Other agriculture-related measures  
 4.1 - Restoring/improving water quality  
 4.2 restoring/improving the hydrological regime  
 4.3 - managing water abstraction  
 8.1 - urban and industrial waste management  
 8.2 specific management of traffic and energy transport systems