

**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:

S1102 - Allis shad (*Alosa alosa*)

IMPORTANT NOTE – PLEASE READ

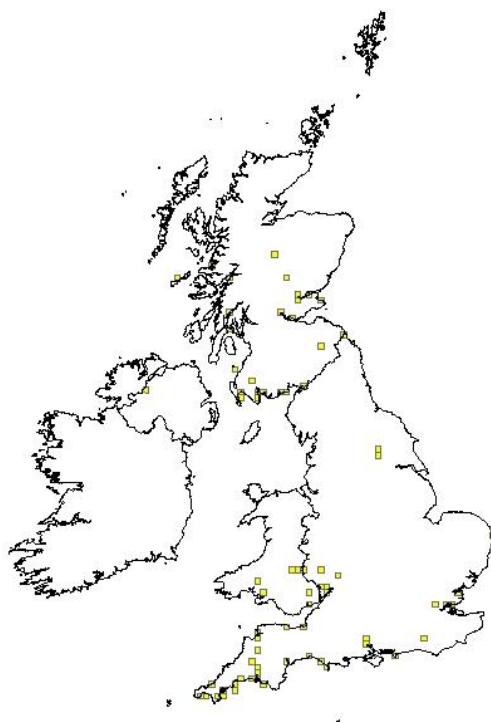
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Northern Ireland Environment Agency** and refers only to the state of the habitat/species in **Northern Ireland** - it does 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>	
0.2 Species	0.2.1 Species code	S1102
	0.2.2 Species scientific name	<i>Alosa alosa</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Allis Shad

1.1 Maps

1.1.1 Distribution map		Sensitive	True
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1.1.2 Method used - map	<p>Estimate based on expert opinion with no or minimal sampling</p> <p>At a 10-km square resolution, the current Database for the Atlas of Freshwater Fishes, does not provide an updated data source for allis shad in NI. Records have been used from CEDaR, the Loughs Agency and NIEA (inc. records from an angler on the Mourne River) to inform the current assessment. For the assessment records from a wide date range (1896-2010) have been used to map current extent of occurrence. Furthermore, it can be difficult to distinguish between this species and its close relative <i>A. fallax</i>. For these reasons, data quality is reported as poor.</p>
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1.1.3 Year or period	2007-2012
	2007-2012. Have included historic records dating back to 1896. This has been implemented as these records are not currently on the Atlas for Freshwater Fishes for NI and were excluded in the last reporting round (2006).
1.1.4 Additional distribution map	False
1.1.5 Range map	

2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	<p>"Confirmed Anglers Records: Angler (Mourne River - 2010) - Samples sent to CFB and Irish Specimen Fish Committee; and Angler (Mourne River - 2010) - Samples sent to CFB C/O Dr Jimmy King.</p> <p>Historical records from CEDaR: Art Niven / Loughs Agency (Mourne River - 2003); and Coastal Fishery (Donaghadee - Unlocalised 1896).</p> <p>Map Data Sources: Biological Records Centre - Database for the Atlas of Freshwater Fishes (2004) (via NBN Gateway/CEDaR)"</p>

2.3 Range	
2.3.1 Surface area Range	40
	X4 records of allis shad known in NI. Calculated on the basis of x4 10km squares (unless overlap is applicable - require grid references for final confirmation)
2.3.2 Method used Surface area of Range	Estimate based on expert opinion with no or minimal sampling
	At a 10-km square resolution, the current Database for the Atlas of Freshwater Fishes, does not provide an updated data source for allis shad in NI. Records have been used from CEDaR, the Loughs Agency and NIEA (inc. records from an angler on the Mourne River) to inform the current assessment. For the assessment records from a wide date range (1896-2010) have been used to map current extent of occurrence. Furthermore, it can be difficult to distinguish between this species and its close relative <i>A. fallax</i> . For these reasons, data quality is reported as poor.
2.3.3 Short-term trend Period	2001-2012
2.3.4 Short term trend	unknown

Trend direction	Trend analysis not possible - no measurable/quantifiable data for comparison.	
2.3.5 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
2.3.6 Long-term trend Period	1988-2012	
	Trend analysis not possible - no measurable/quantifiable data for comparison.	
2.3.7 Long-term trend Trend direction	unknown	
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	
	Based on expert opinion, the favourable reference range will exceed the current range. However, in the absence of reliable pre- and post-1994 trend information, it is not possible to determine to what extent these estimates would differ. The favourable reference range has therefore been reported unknown.	
	c) FRR is unknown (indicated by "true")	True
d) Method used to set FRR	Based on expert opinion, the favourable reference range will exceed the current range. However, in the absence of reliable pre- and post-1994 trend information, it is not possible to determine to what extent these estimates would differ. The favourable reference range has therefore been reported unknown.	

		<p>Current records - x2 Allis shad (males) captured by an angler on the River Mourne (May and July 2010). Gill rakers on 1st arch and scales sent to ISFC + CFB for confirmation.</p> <p>Previous Article 17 report did not note any presence of Allis shad in Northern Ireland waters (JNCC 2007).</p> <p>Also breeding has never been confirmed in Northern Ireland and current evidence points to those fish which have been recorded being just transient visitors.</p>
<p>2.3.10 Reason for change</p> <p>Is the difference between the reported value in 2.3.1 and the previous reporting round mainly due to...</p>	<p>a) Genuine change?</p>	False
	<p>b) Improved knowledge/more accurate data?</p>	True
	<p>No records presented within the 2006 reports. Improved collation of data and new records of allis shad in the Mourne River in 2010.</p>	
	<p>c) Use of different method (e.g. "Range tool")?</p>	False

2.4 Population		
<p>2.4.1 Population size estimation (using individuals or agreed exceptions where possible)</p>	a) Unit	
	b) Minimum	
	c) Maximum	
<p>2.4.2 Population size estimation (using population unit other than individuals) Optional (<i>if 2.4.1 filled in</i>)</p>	a) Unit	
	b) Minimum	
	c) Maximum	
2.4.3 Additional	a) Definition of	

information on population estimates / conversion Optional	"locality"	
	b) Method to convert data	
	c) Problems encountered to provide population size estimation	<p>Only 2 records of allis shad in NI. Not sufficient information for determination of population size.</p> <p>The current absolute population level is unknown, since the species is not routinely monitored. The count of 10-km squares is not an adequate proxy since it does not result from a comprehensive survey, is only available for a large date-class and it has no correlation with a breeding population (never been determined in NI)</p>
	The current absolute population level is unknown, since the species is not routinely monitored. The count of 10-km squares is not an adequate proxy since it does not result from a comprehensive survey, is only available for a large date-class and it has no correlation with the breeding population.	
2.4.4 Year or period	2007-2012	
2.4.5 Method used	Absent data	
Population size		
2.4.6 Short-term trend	2001-2012	
Period		
2.4.7 Short-term trend	unknown	
Trend direction		
2.4.8 Short-term trend	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend	Absent data	
Method used		

2.4.10 Long-term trend – Period	1988-2012	
	Trend analysis not possible - no measurable/quantifiable data for comparison. For the assessment records from a wide date range (1896-2010) have been used to map current extent of occurrence. 1896 data has been referred to as it was not presented within the previous reporting round (2006)	
2.4.11 Long-term trend Trend direction	unknown	
2.4.12 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	0	
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	
	Based on expert opinion, the favourable reference population will exceed the current records. However, in the absence of reliable pre- and post-1994 trend information, it is not possible to determine to what extent these estimates would differ. The favourable reference population has therefore been reported unknown. In line with the rest of the UK it is assumed to be more than 25% below the FRP for NI. A conclusion of Unfavourable-Bad has therefore been triggered. (Note: due to poor data, this judgement can only be made with low confidence).	
	c) FRP is unknown indicated by "true"	True
d) Method used to set FRP	Based on expert opinion, the favourable reference population will exceed the current records. However, in the absence of reliable pre- and post-1994 trend	

		<p>information, it is not possible to determine to what extent these estimates would differ. The favourable reference population has therefore been reported unknown. In line with the rest of the UK it is assumed to be 25% below the FRP for NI.</p> <p>A conclusion of Unfavourable-Bad has therefore been triggered. (Note: due to poor data, this judgement can only be made with low confidence).</p>
<p>2.4.15 Reason for change</p> <p>Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:</p>	<p>a) Genuine change?</p>	False
	<p>b) Improved knowledge/ more accurate data?</p>	True
	Improved knowledge/more accurate data (inc. reporting of the data)	
	<p>c) Use of different method (e.g. "Range tool")?</p>	False

2.5 Habitat for the species		
<p>2.5.1 Area estimation</p>	<p>Habitat Surface Area - Unknown</p> <p>Freshwater Habitat – Rivers with good water quality with unimpeded access to and from the sea. Clean, well-oxygenated gravels are required for spawning. Juveniles require slow flowing nursery areas in freshwater above the estuary.</p> <p>Marine habitat – This aspect is poorly understood, but they seem to be mainly coastal and pelagic in habit. They have been reported from depths 10-150 m. A suitable estuarine habitat is likely to be very important for adults and juveniles (Maitland and Hatton-Ellis, 2003).</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.</p>	
	<p>2.5.2 Year or period</p>	2007-2012
<p>2.5.3 Method used Habitat for the species</p>	Estimate based on expert opinion with no or minimal sampling	
<p>2.5.4 Quality of the</p>	<p>a) Habitat quality</p>	Moderate

habitat	Moderate	
	b) Assessment method	Related to classification status of the River Mourne (under the Water Framework Directive). Moderate status is related to levels of copper (CU) within the watercourse.
	Related to classification status of the River Mourne (under the Water Framework Directive). Moderate status is related to levels of copper (CU) within the watercourse.	
2.5.5 Short-term trend Period	2001-2012	
	2001-2012	
2.5.6 Short-term trend Trend direction	stable	
	In the UK physical barriers to migration (constructed prior to 1994) limit the area of freshwater habitat suitable for <i>A. alosa</i> spawning, including weirs, bridge footings, etc. However, overall, habitat has most likely remained stable since the Habitat Directive came into force in 1994 and from 2001 following implementation of the Water Framework Directive (2000) and the CAR Regs (2006&2011).	
2.5.7 Long-term trend Period	1988-2012	
	1988-2012	
2.5.8 Long-term trend Trend direction	unknown	
	Unknown - trend analysis not possible - no measurable/quantifiable data for comparison.	
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
	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
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	H = high importance M = medium importance L = low importance	
A01: Cultivation	H	N
A08: Fertilisation	H	N
D01: Roads, paths and railroads	H	X
E01: Urbanised areas, human habitation	H	X
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	X
J02: human induced changes in hydraulic conditions	H	X

A01 - Cultivation, A08 - Fertilisation, D01 Roads, paths and railroads, E01 - Urbanised areas, human habitation, H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish), and J02 - Human induced changes in hydraulic conditions

2.6.1 Method used – Pressures

mainly based on expert judgement and other data
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 & terrestrial, marine & brackish), and J02 - Human induced changes in hydraulic conditions

2.7.1 Method used – Threats

expert opinion
expert opinion

2.8 Complementary information	
2.8.1 Justification of % thresholds for trends	
2.8.2 Other relevant information	<p data-bbox="616 365 1474 456">Poor future prospects (next 12 years and in 2025). Trends have not been determined as there is nothing for analysis, as records recorded for NI are limited.</p> <p data-bbox="616 524 1390 584">Potential area of habitat for the species in 2025 currently unknown.</p> <p data-bbox="616 651 1449 875">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 data-bbox="616 943 1469 1196">An additional threat to allis shad is the risk associated with water intakes, and particularly those associated with powerstations and other industrial processes. No records of allis shad are currently available from relevant powerstation impingement studies or estuarine field surveys (NIEA), however if a population was to establish, and numbers of adult and juvenile allis shad increased, the risk of impingement could be significant.</p> <p data-bbox="616 1263 1481 1451">It is also possible that a warming climate will lead to improved recruitment and lead to favourable conditions for the re-establishment of populations, even over the next 12 years. Shad are sensitive to temperature changes; upstream migration from the estuary appears to be triggered by temperature and eggs are sensitive to water temperatures below 16-18oC.</p> <p data-bbox="616 1473 1461 1565">Additional research is required to assess this however, and as yet, the potential impacts of climate on this species are largely unconfirmed.</p> <p data-bbox="616 1599 1449 1691">Poor future prospects (next 12 years and in 2025). Trends have not been determined as there is nothing for analysis, as records recorded for NI are limited.</p> <p data-bbox="616 1758 1414 1794">Potential area of habitat for the species in 2025 currently unknown.</p> <p data-bbox="616 1861 1457 2011">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</p>

	<p>migration of salmonids).</p> <p>An additional threat to allis shad is the risk associated with water intakes, and particularly those associated with powerstations and other industrial processes. No records of allis shad are currently available from relevant powerstation impingement studies or estuarine field surveys (NIEA), however if a population was to establish, and numbers of adult and juvenile allis shad increased, the risk of impingement could be significant.</p> <p>It is also possible that a warming climate will lead to improved recruitment and lead to favourable conditions for the re-establishment of populations, even over the next 12 years. Shad are sensitive to temperature changes; upstream migration from the estuary appears to be triggered by temperature and eggs are sensitive to water temperatures below 16-18oC.</p> <p>Additional research is required to assess this however, and as yet, the potential impacts of climate on this species are largely unconfirmed.</p>
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	Absent data	
3.1.3 Trend of population size within the network	unknown	

(short-term trend)	Unknown - there is insufficient information to assess population trend at present
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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
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					H			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					H			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