

**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:

**S1831 - Floating water-plantain (*Luronium natans*)**

**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)

## NATIONAL LEVEL

### 1. General information

1.1 Member State	UK (England information only)
1.2 Species code	1831
1.3 Species scientific name	Luronium natans
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Floating water-plantain

### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2013-2017
2.3 Distribution map	Yes
2.4 Distribution map Method used	Complete survey or a statistically robust estimate
2.5 Additional maps	No

### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No	
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

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

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

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

3.5. Additional information

## BIOGEOGRAPHICAL LEVEL

### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

**Atlantic (ATL)**

4.2 Sources of information

ANDERSON, B. & LEIGH, S., 2010. Rochdale Canal Review 2009/2010. British Waterways unpublished report

CARVALHO, L. & MOSS, B. 1998. Lake SSSIs subject to eutrophication - an environmental audit. English Nature Freshwater Series, No. 3

HATTON, J., 2009. Interim Report on the Effects of Exposure Tolerance on *Luronium natans* (L.) Raf. Report prepared for British Waterways and Natural England by Univeristy of Bolton.

LANSDOWN, R. V. & WADE, P. M., 2000. Ecology of the Floating Water-plantain. Conserving Natura 2000 Rivers Ecology Series No. 9. English Nature, Peterborough.

JACKSON, D.L. & McLEOD, C.R. (Eds.) 2002. Handbook on the UK status of EC Habitats Directive interest features: provisional data on the UK distribution and extent of Annex I habitats and the UK distribution and population size of Annex II species. Revised 2002 JNCC Report No. 312

JOHN, C., 2008. CANNOCK EXTENSION SSSI/SAC STATUS 2007. British Waterways unpublished report

JOHN, C., 2010. TRANSLOCATION OF LURONIUM NATANS. British Waterways unpublished report

LOCKTON, A.J. (1 October 2012). Species account: *Luronium natans*. Botanical Society of the British Isles, [www.bsbi.org.uk](http://www.bsbi.org.uk).

NIELSON, U. N., RIIS, T. & BRIX, H., 2006. Short communication - The importance of vegetative and sexual dispersal of *Luronium natans*. Aquatic Botany 84: 165-170.

PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. New Atlas of the British & Irish Flora. Oxford University Press.

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STEWART, A., PEARMAN, D.A. & PRESTON, C.D. 1994. Scarce Plants in Britain. Peterborough: Joint Nature Conservation Committee  
 LANDOWN, R. V., 2017. Compilation of a monitoring baseline and protocol for *Luronium natans*. Unpublished report to Natural England.

## 5. Range

5.1 Surface area (km <sup>2</sup> )	
5.2 Short-term trend Period	
5.3 Short-term trend Direction	Stable (0)
5.4 Short-term trend Magnitude	a) Minimum                      b) Maximum
5.5 Short-term trend Method used	
5.6 Long-term trend Period	
5.7 Long-term trend Direction	
5.8 Long-term trend Magnitude	a) Minimum                      b) Maximum
5.9 Long-term trend Method used	
5.10 Favourable reference range	a) Area (km <sup>2</sup> ) b) Operator c) Unknown d) Method
5.11 Change and reason for change in surface area of range	No change The change is mainly due to:
5.12 Additional information	

## 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 c) Maximum d) Best single value    45
6.3 Type of estimate	Best estimate
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value
6.5 Type of estimate	
6.6 Population size Method used	Complete survey or a statistically robust estimate
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Stable (0)

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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	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown d) Method
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)? b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?	Unknown
7.2 Sufficiency of area and quality of occupied habitat Method used		
7.3 Short-term trend Period	2013-2018	
7.4 Short-term trend Direction	Unknown (x)	
7.5 Short-term trend Method used	Insufficient or no data available	
7.6 Long-term trend Period		
7.7 Long-term trend Direction		
7.8 Long-term trend Method used		
7.9 Additional information		

## 8. Main pressures and threats

### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Land, water and air transport activities not referred to above (E09)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M

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Other invasive alien species (other than species of Union concern) (I02) M

Threat	Ranking
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Land, water and air transport activities not referred to above (E09)	H
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Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
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Other invasive alien species (other than species of Union concern) (I02)	M
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## 8.2 Sources of information

## 8.3 Additional information

# 9. Conservation measures

## 9.1 Status of measures

a) Are measures needed?	Yes
b) Indicate the status of measures	Measures identified and taken

## 9.2 Main purpose of the measures taken

Maintain the current range, population and/or 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

Improvement of habitat of species from the directives (CS03)

Reduce/eliminate diffuse pollution to surface waters from freshwater aquaculture (CG12)

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

DO NOT USE Management, control or eradication of other alien species (CI04)

## 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

All 17 'localities' reported during the previous round were checked in 2013-17, but complete coverage of 1km squares (monads - here used as a proxy for population) was not achieved. Range and population appear stable in at least the short term. The area of habitat has not diminished but some aspects of quality will have changed on some sites. On at least one site, for example, the invasive species *Crassula helmsii* is present (but it is not a new arrival). At some canal sites increased boat traffic is suspected to be causing increased turbidity, which could impact on this species. Some sites are being enhanced e.g with efforts to improve water quality. The balance in terms of habitat quality overall are unknown.

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## 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:

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)

a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 23

12.2 Type of estimate

Best estimate

12.3 Population size inside the network Method used

Complete survey or a statistically robust estimate

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

Stable (0)

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

Based mainly on extrapolation from a limited amount of data

12.6 Additional information

## 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information



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## Distribution Map

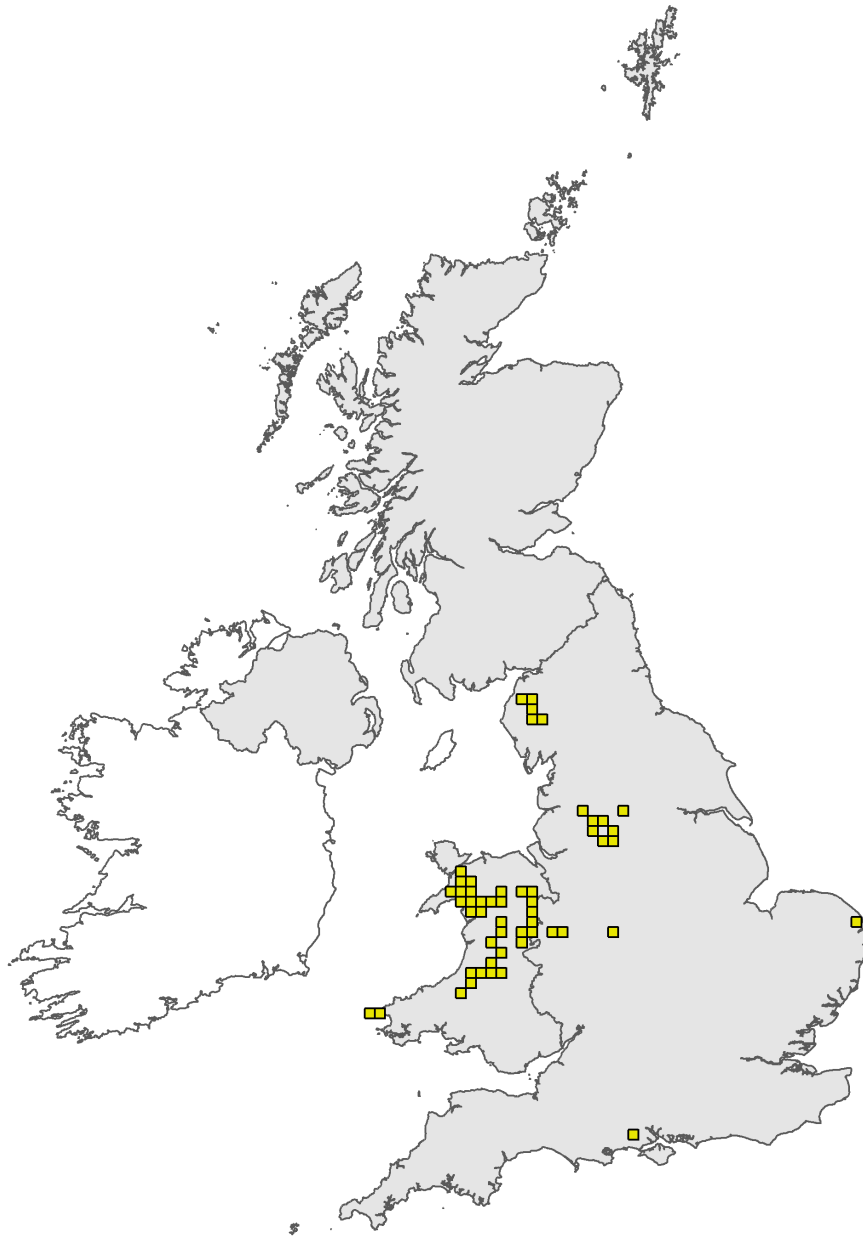


Figure 1: UK distribution map for S1831 - Floating water-plantain (*Luronium natans*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.

## Range Map

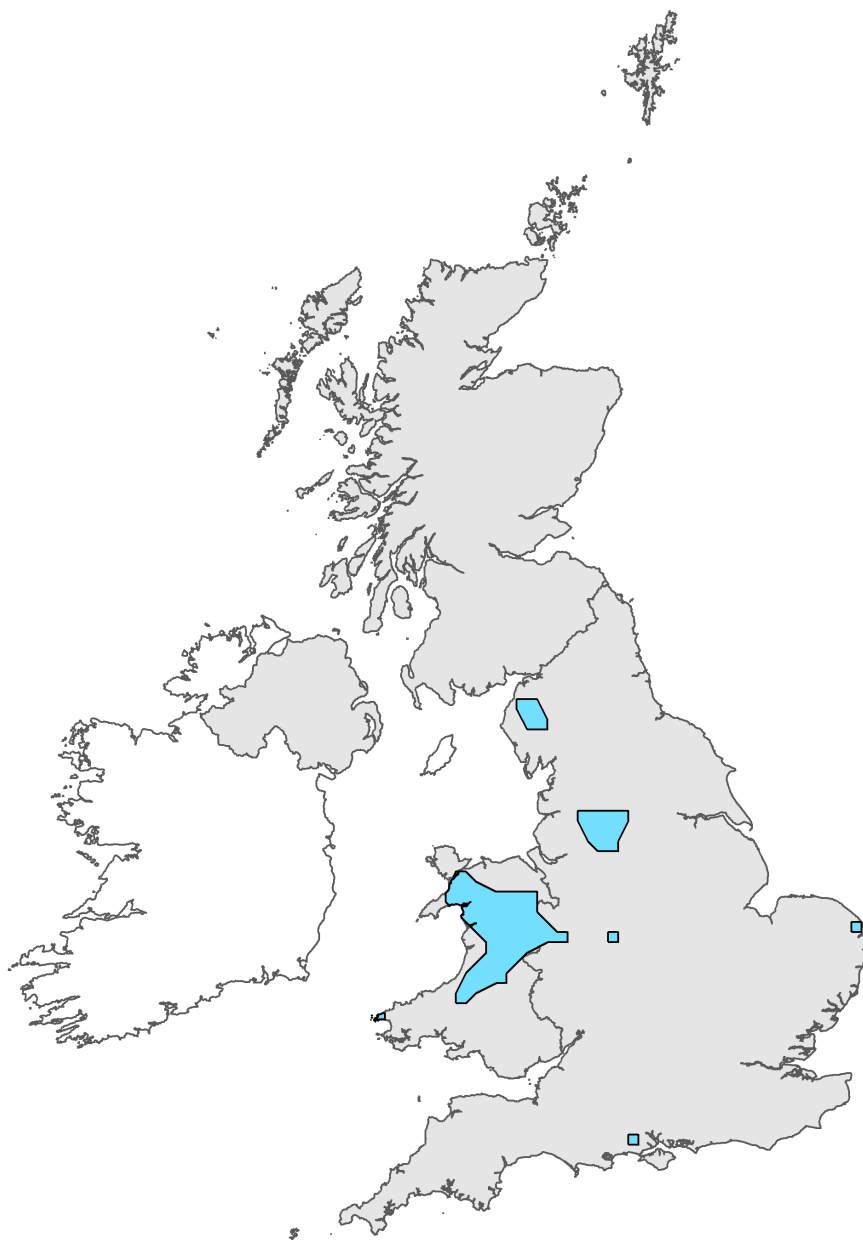


Figure 2: UK range map for S1831 - Floating water-plantain (*Luronium natans*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 20km. For further details see the 2019 Article 17 UK Approach document.

# Explanatory Notes

## Species name: *Luronium natans* (1831)

Field label	Note
2.1 Sensitive species	Although scarce and localised this species is not known to have been targeted by collectors and, as in previous reporting rounds, is therefore not considered sensitive.
2.2 Year or Period	Full review of data from known sites in 2017 in report commissioned by NE (Lansdown, 2017). Mapped records for Hampshire and Norfolk have previously been considered to be introductions. The Norfolk population is considered possibly native by some (A. Prendergast pers. comm.).
2.3 Distribution map	Data derived from BSBI database and report by R V Lansdown.
2.4 Distribution map; Method used	Coverage of most recent sites achieved during the period 2013-18 (Lansdown, 2017), so considered almost complete. This species does fluctuate in numbers at some sites and might still persist in or recolonise sites where none was found in 2013-2018. The ideal would be to survey all sites in multiple seasons.

## Species name: *Luronium natans* (1831) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	Data for the current reporting period (2013-2017) suggest that canal populations are more or less stable (including some gains and losses), Lansdown, 2017.
5.11 Change and reason for change in surface area of range	Assuming the range has remained stable in the short term.
6.1 Year or Period	2013-2018 but review of data and trawl undertaken in 2017 only.
6.2 Population size	1km squares were used as the reporting unit in line with EU recommendations (in the previous round localities was used). Not all monads will have been checked in the period and if all post 2000 records are included the number of monads where the species has been recorded rises to 74. This species, like many water plants, can easily be overlooked and non flowering plants can be difficult to identify with certainty.
6.6 Population size; Method used	All 17 'localities' reported during the previous round were checked at least once in the present reporting round, but complete coverage of 1km squares (monads) was not achieved. Nonetheless, the number of records indicates coverage in the present reporting round is at least as good as during previous rounds allowing reasonably meaningful comparisons to be made.
6.7 Short term trend; Period	2007-2018 is the recommended period.
6.8 Short term trend; Direction	The second report (2007) used localities as the proxy unit for population and reported 17 and mapped 10km squares to calculate the range. Analysis of available monad records by Lansdown (2017) shows a dynamic population which is more or less stable with losses more than offset by gains.
6.10 Short term trend; Method used	This is a reasonably well-recorded species (targeted for surveys because of its status) but is easily overlooked due to various factors and the records are not comprehensive. Thus conclusions inevitably involve extrapolation from the data available.
7.1 Sufficiency of area and quality of occupied habitat	The area of habitat has not diminished but some aspects of quality will have changed on some sites. On at least one site, for example, the invasive species <i>Crassula helmsii</i> is present (but it was present at least in the previous round so is not a new arrival). At some canal sites increased boat traffic is suspected to be causing increased turbidity, which could impact on this species and other macrophytes. Systematic data is unavailable so the trend is reported as unknown.

8.1 Characterisation of pressures/ threats	<p>Lansdown (2017) suggested that the main cause of the [historic - before the Directive came into force] decline and disappearance of <i>L. natans</i> from most sites in Shropshire and Cheshire was the decline in exploitation of the water bodies where it once occurred, e.g. by grazing animals or other activities maintaining an open aspect. He listed eutrophication of water bodies as another factor and this probably remains a problem. In canals he linked the apparent [long term] decline to increased boat traffic, with the establishment of non-native plant species such as <i>Hydrocotyle ranunculoides</i> as another factor. <i>Crassula helmsii</i> was noted as a likely problem in some reservoirs and lakes.</p>
9.1 Status of measures	<p>SACs designated for this species are: Bassenthwaite Lake; Brown Moss, Cannock Extension Canal; River Derwent and tributaries. SSSIs designated for the species (i.e. where it is a notified feature): Brown Moss (in part); Cannock Extension Canal (in part); Chasewater &amp; South Staffordshire Coalfield Heaths; Rochdale Canal. It is protected under the Wildlife and Countryside Act 1981 (Schedule 8) - plants which are protected from intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for buying or selling (Section 13 2b). Source: Source: Wildlife and Countryside Act Schedules 1,5 and 8 (protected birds, animals and plants). Threats of this kind are believed to be limited. Specific conservation work on the plant at various sites includes investigation of propagation techniques (now successful - CRT) and augmentation exercises to re-introduce plants to some canal sites.</p>
12.1 Population size inside the pSCIs, SCIs and SACs network	<p>23 (51%) of the monads with records of <i>Luronium</i> during the 2013-17 reporting period are within SAC sites and more are within SSSIs.</p>