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:

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

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)

NATIONAL LEVEL

1. General information

1.1 Member State	**UK**
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	2007-2018
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

England

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Goldsmith B, Salgado J, Shilland J, Bennion H, Yang H, Turner SD. 2014a. Biodiversity Action Plan Lakes Survey 2012-14. NRW Evidence Report No: 27, 171pp. Bangor: Natural Resources Wales.
Goldsmith B, Salgado J, Bennion H, Goodrich S. 2014b. Lake Ecological Surveys (Wales) 2013 NRW Evidence Report No: 28.19 pp, Bangor: Natural Resources Wales.
Goldsmith B, Shilland EM, Yang H, Shilland J, Salgado J, Turner SD. 2014c. Condition Assessment of Eight Standing Waters in Sites of Special Scientific Interest (SSSIs). NRW Evidence Report No: 29, 147pp, Bangor: Natural Resources Wales.
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5. Range

5.1 Surface area (km²)	9371.25	
5.2 Short-term trend Period	2007-2018	
5.3 Short-term trend Direction	Decreasing (-)	
5.4 Short-term trend Magnitude	a) Minimum	b) Maximum
5.5 Short-term trend Method used	Complete survey or a statistically robust estimate	
5.6 Long-term trend Period		
5.7 Long-term trend Direction		
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum

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5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	b) Operator	More than (>)
	c) Unknown	
	d) Method	The FRR is the same as in 2013 and is no more than 10% above the current range. An FRR operator has been used because it had not been possible to calculate the exact FRR value. See the 2019 Article 17 UK Approach document for further information.
5.11 Change and reason for change in surface area of range	Genuine change Improved knowledge/more accurate data	
	The change is mainly due to:	Genuine change
5.12 Additional information	The Range surface area for this species has decreased since 2013, the rate of decrease is not considered to be more than 1% per year and is no more than 10% below the FRR. See the 2019 UK Article 17 Approach document for further information.	

6. Population

6.1 Year or period	2000-2018	
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	184
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)	
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interval	
6.10 Short-term trend Method used	Complete survey or a statistically robust estimate	
6.11 Long-term trend Period		
6.12 Long-term trend Direction		

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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	 More than (>) The FRP has changed since 2013. An FRP operator has been used because it had not been possible to calculate the exact FRP value. The FRP is considered to be no more than 25% above the current population. The FRP has been updated to take account of reduced data availability. See the 2019 Article 17 UK Approach document for further information.
6.16 Change and reason for change in population size	Genuine change Improved knowledge/more accurate data The change is mainly due to:	 Improved knowledge/more accurate data
6.17 Additional information	The reinterpretation of existing records and availability of new data has improved Welsh knowledge of the population in Wales, contirbuting to better understanding at the UK scale.	

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (for long-term survival)?	No
	b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?	Unknown
7.2 Sufficiency of area and quality of occupied habitat Method used	Complete survey or a statistically robust estimate	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Stable (0)	
7.5 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data	
7.6 Long-term trend Period		
7.7 Long-term trend Direction		
7.8 Long-term trend Method used		
7.9 Additional information	Habitat quality within the occupied area is not considered sufficient and has been linked to population extinctions within Wales. There is not adequate evidence to conclude on the sufficiency of unoccupied habitat.	

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Agricultural activities generating point source pollution to	M

surface or ground waters (A25)	
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Invasive alien species of Union concern (I01)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Problematic native species (I04)	M
Development and operation of dams (K03)	M
Modification of hydrological flow (K04)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M

Threat	Ranking
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Land, water and air transport activities generating pollution to surface or ground waters (E05)	M
Land, water and air transport activities not referred to above (E09)	M
Management of fishing stocks and game (G08)	M
Invasive alien species of Union concern (I01)	M
Other invasive alien species (other then species of Union concern) (I02)	H
Problematic native species (I04)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Modification of hydrological flow (K04)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M

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

Reduce/eliminate point pollution to surface or ground waters from agricultural activities (CA10)
Reduce diffuse pollution to surface or ground waters from agricultural activities (CA11)
Reduce impact of transport operation and infrastructure (CE01)
Early detection and rapid eradication of invasive alien species of Union concern (CI01)
Management, control or eradication of established invasive alien species of Union concern (CI02)
Management, control or eradication of other invasive alien species (CI03)
Management of problematic native species (CI05)
Reduce impact of multi-purpose hydrological changes (CJ02)
Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes (CL01)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

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

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 negative - slight/moderate deterioration. For further information on how future trends inform the Future Prospects conclusion see the 2019 Article 17 UK Approach document.

11. Conclusions

11.1. Range	Unfavourable - Inadequate (U1)
11.2. Population	Unfavourable - Inadequate (U1)
11.3. Habitat for the species	Unknown (XX)
11.4. Future prospects	Unfavourable - Inadequate (U1)
11.5 Overall assessment of Conservation Status	Unfavourable - Inadequate (U1)
11.6 Overall trend in Conservation Status	Deteriorating (-)

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

Genuine change

The change is mainly due to: Genuine change

11.8 Additional information

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is decreasing by 1% per year or less; and (ii) the current Range surface area is more than the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in

Population size is stable; and (ii) the current Population size is not more than 25% below the Favourable Reference Population.

Conclusion on Habitat for the species reached because: (i) the area of occupied and unoccupied 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 stable.

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

Overall assessment of Conservation Status is Unfavourable-inadequate because three of the conclusions are Unfavourable-inadequate and one is Unknown.

Overall trend in Conservation Status is based on the combination of the short-term trends for Range – decreasing, Population – stable, and Habitat for the species – stable.

Overall assessment of Conservation Status has not changed since 2013.

Overall trend in Conservation Status has changed from Stable in 2013 to Deterirorating in 2019.

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	120
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		Complete survey or a statistically robust estimate
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

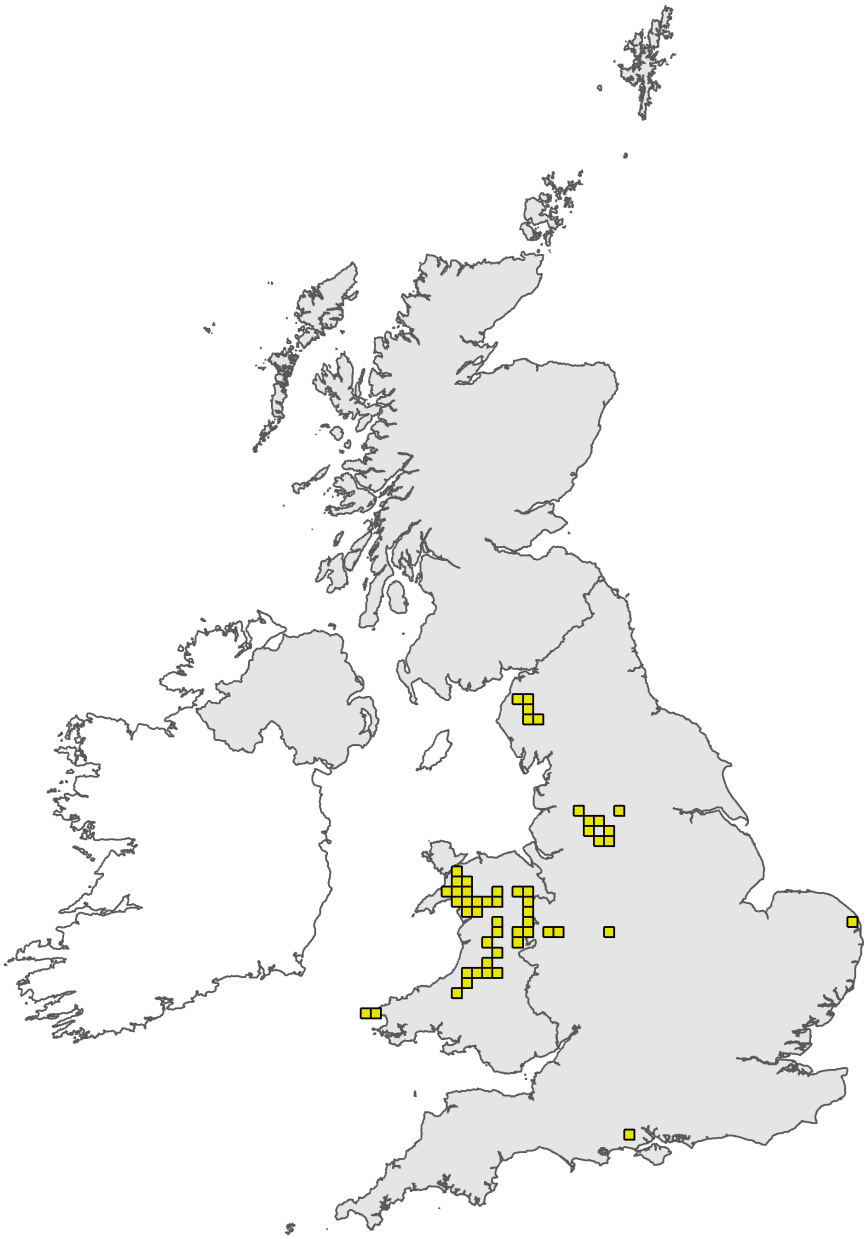

Figure 1: UK distribution map for S1831 - Floating water-plantain (*Luronium natans*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.