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 habitat:

H3180 - Turloughs

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents the UK Report on the conservation status of this habitat, 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 habitat 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 and/or UK offshore-level reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; and/or (ii) completion of the field was not obligatory.
- 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 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	**UK**
1.2 Habitat code	**3180 - Turloughs**

2. Maps

2.1 Year or period	2007-2018
2.3 Distribution map	Yes
2.3 Distribution map Method used	Complete survey or a statistically robust estimate
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	**Atlantic (ATL)**
3.2 Sources of information	Wales Blackstock TH, Duigan CA, Stevens DP, Yeo M. (1993) Vegetation zonation and invertebrate fauna in Pant-y-llyn, an unusual seasonal lake in South Wales, UK. Aquatic Conservation: Marine and Freshwater Ecosystems, 3, 253-268. Duigan C.A. (2003) Freshwater Habitats. In: Jones, P. S., Stevens, D. P., Blackstock, T. H., Burrows, C. R., and Howe, E. A. Priority habitats of Wales: a technical guide. 140pp. Bangor, Countryside Council for Wales. Farr G. (2012) Is Pwll-y-Felin a turlough? Environment Agency unpublished file note. Farr G, Hatton-Ellis T, Jones DA, Lambourne C, Bevan J. (2012) Hydrology, Water Quality and Condition of Pant-y-Llyn, Wales' only Turlough. CCW Staff Science Report No. 12/8/1. CCW, Bangor. Hardwick P, Gunn J. (1998) Hydrogeological studies at Pant-y-Llyn, Carmarthenshire. CCW Contract Science Report 219. Bangor, Countryside Council for Wales. Joint Nature Conservation Committee. 2007. Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006. Peterborough: JNCC. Available from: www.jncc.gov.uk/article17 Porst G, Irvine K. (2009) Distinctiveness of macroinvertebrate communities in turloughs (temporary ponds) and their response to environmental variables. Aquatic Conservation: Marine and Freshwater Ecosystems, 19, 456-465. Skeffington MS, Moran J, Connor AO, Regan E, Coxon CE, Scott NE, Gormally M. (2006) Turloughs - Ireland's unique wetland habitat. Biological Conservation, 133, 265-290. Slater FM. (1993) Turlough Toads of Pantyllyn. Llanelli Naturalists Newsletter, 56, 35-36. N.Ireland Curtis T, Downes S and Ni Chathain B (2009). The ecological requirements of water-dependent habitats and species designated under the Habitats Directive. Biology and Environment: Proceedings of the Royal Irish Academy, 109B, No. 3, 261-319. Fogg, T and Kelly, J.G. Karst Geomorphology of Northern Ireland. A report to Environment Service, Department of the Environment, Northern Ireland. May 1995.

Gunn, J. Karst hydrological investigations at Fardrum and Roosky Turloughs, County Fermanagh. An interim report on research funded by the Environment and Heritage Service. (Contractor: University of Huddersfield, Limestone Research Group) Unpublished report to Environment and Heritage Service, Belfast (LRG Report, No. 2003/01).
Gunn, J. Karst hydrological investigations at Fardrum and Roosky Turloughs, County Fermanagh. 2005 - 2008. (Contractor: Limestone Research and Consultancy). Unpublished report to Northern Ireland Environment Agency, Belfast (LRC Report 2009/03).
Gunn, J. Karst hydrological investigations at Fardrum and Roosky Turloughs, County Fermanagh. 2009 - 2010. (Contractor: Limestone Research and Consultancy). Unpublished report to Northern Ireland Environment Agency, Belfast (LRC Report 2011/13).
Kelly, JG, Enlander, I, Kelly, AM & Fogg, T (2002). The geological setting, hydrology and ecology of Roosky Turlough, Ely, Co. Fermanagh, Northern Ireland. Cave and Karst Science, 29(3), 105-110
Langford, R and Brown, L. April 2016 DOE Water Quantity Monitoring, Topographic Survey, Data Analysis and Reporting for Fardrum and Roosky Area of Special Scientific Interest (ASSI) / Special Area of Conservation (SAC). Unpublished Report for NIEA, Belfast.
Moran J, Sheehy Skeffington M and Gormally M (2008). The influence of hydrological regime and grazing management on the plant communities of a karst wetland (Skealoghan turlough) in Ireland. Applied Vegetation Science, 11(1), 13 - 24
National Parks and Wildlife Service: Turlough (3180) Conservation Status Assessment Report. 2007
Sheehy Skeffington M, Moran J, Connor A'O , Regan E, Coxon CE, Scott NE and Gormally M (2006). Turloughs - Ireland's unique wetland habitat. Biological Conservation, 133, 265 - 290.
Sheehy Skeffington M and Gormally M (2007). Turloughs: a mosaic of biodiversity and management systems unique to Ireland. ACTA CARSOLOGICA, 36 :217-222
Trinity College Dublin, Turlough Conservation Project: www.tcd.ie/Botany/research/turlough_conservation/index.php
Waldren, S. 2015, Ed. Turlough Hydrology, Ecology and Conservation (Part 1). Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
Waldren, S. 2015, Ed. Assessing the Conservation Status of Turloughs: Site Reports (Part 2). Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

4. Range

4.1 Surface area (in km²)	200.26	
4.2 Short-term trend Period	2007-2018	
4.3 Short-term trend Direction	Stable (0)	
4.4 Short-term trend Magnitude	a) Minimum	b) Maximum
4.5 Short-term trend Method used	Complete survey or a statistically robust estimate	
4.6 Long-term trend Period		
4.7 Long-term trend Direction		
4.8 Long-term trend Magnitude	a) Minimum	b) Maximum
4.9 Long-term trend Method used		
4.10 Favourable reference range	a) Area (km²)	200.26

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

	b) Operator	
	c) Unknown	No
	d) Method	The FRR is approximately equal to the current range area. The approach taken to set the FRR is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).
4.11 Change and reason for change in surface area of range	No change	
	The change is mainly due to:	
4.12 Additional information		

5. Area covered by habitat

5.1 Year or period	2009-2018		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 0.0462
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Complete survey or a statistically robust estimate		
5.5 Short-term trend Period	2007-2018		
5.6 Short-term trend Direction	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Complete survey or a statistically robust estimate		
5.9 Long-term trend Period			
5.10 Long-term trend Direction			
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used			

5.13 Favourable reference area	a) Area (km²)	0.0462
	b) Operator	
	c) Unknown	No
	d) Method	The FRA is approximately equal to the current area. The approach taken to set the FRA is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).
5.14 Change and reason for change in surface area of range	No change	
	The change is mainly due to:	
5.15 Additional information		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 0.0066	Maximum 0.0066
	b) Area in not-good condition (km²)	Minimum 0.0396	Maximum 0.0396
	c) Area where condition is not known (km²)	Minimum 0	Maximum 0
6.2 Condition of habitat Method used	Complete survey or a statistically robust estimate		

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

6.3 Short-term trend of habitat area in good condition Period	2007-2018
6.4 Short-term trend of habitat area in good condition Direction	Stable (0)
6.5 Short-term trend of habitat area in good condition Method used	Complete survey or a statistically robust estimate
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period? No
6.7 Typical species Method used	
6.8 Additional information	

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	M
Agricultural activities generating point source pollution to surface or ground waters (A25)	H
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	H
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Modification of hydrological flow (K04)	H
Increases or changes in precipitation due to climate change (N03)	M

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	M
Agricultural activities generating point source pollution to surface or ground waters (A25)	H
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	H
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Modification of hydrological flow (K04)	H
Increases or changes in precipitation due to climate change (N03)	H

7.2 Sources of information

7.3 Additional information

8. Conservation measures

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

8.1 Status of measures	a) Are measures needed?	Yes
	b) Indicate the status of measures	Measures identified and taken
8.2 Main purpose of the measures taken		Restore the habitat of the species (related to 'Habitat for the species')
8.3 Location of the measures taken		Both inside and outside Natura 2000
8.4 Response to the measures		Medium-term results (within the next two reporting periods, 2019-2030)
8.5 List of main conservation measures		

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)

Adapt mowing, grazing and other equivalent agricultural activities (CA05)

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)

Adapt/manage extraction of non-energy resources (CC01)

Reduce impact of mixed source pollution (CJ01)

Restore habitats impacted by multi-purpose hydrological changes (CJ03)

Implement climate change adaptation measures (CN02)

8.6 Additional information

9. Future prospects

9.1 Future prospects of parameters	a) Range	Good
	b) Area	Good
	c) Structure and functions	Bad
9.2 Additional information		Future trend of Range is Overall stable; Future trend of Area is Overall stable; and Future trend of Structure and functions is Overall stable

10. Conclusions

10.1. Range	Favourable (FV)
10.2. Area	Favourable (FV)
10.3. Specific structure and functions (incl. typical species)	Unfavourable - Bad (U2)
10.4. Future prospects	Unfavourable - Bad (U2)
10.5 Overall assessment of Conservation Status	Unfavourable - Bad (U2)
10.6 Overall trend in Conservation Status	Stable (=)
10.7 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:

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

10.8 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 Area covered by habitat reached because: (i) the short-term trend direction in Area is stable; and (ii) the current Area is approximately equal to the Favourable Reference Area. Conclusion on Structure and functions reached because habitat condition data indicates that more than 25% of the habitat is in unfavourable (not good) condition. Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Area covered by habitat are good; and (iii) the Future prospects for Structure and functions are bad. Overall assessment of Conservation Status is Unfavourable-bad because one or more of the conclusions are Unfavourable-bad. Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Area covered by habitat - stable, and Structure and functions - stable.

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/ marine region)	a) Minimum b) Maximum c) Best single value 0.0462
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Complete survey or a statistically robust estimate
11.4 Short-term trend of habitat area in good condition within the network Direction	Stable (0)
11.5 Short-term trend of habitat area in good condition within network Method used	Complete survey or a statistically robust estimate
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

Figure 1: UK distribution map for H3180 - Turloughs. 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 habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

Range Map

Figure 2: UK range map for H3180 - Turloughs. 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 habitat was 25km. For further details see the 2019 Article 17 UK Approach document.