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 habitat:

H7150 - Depressions on peat substrates of the *Rhynchosporion*

WALES

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to 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.
- 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 habitat 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; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions 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 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	**UK (Wales information only)**
1.2 Habitat code	**7150 - Depressions on peat substrates of the Rhynchosporion**

2. Maps

2.1 Year or period	1993-2012
2.3 Distribution map	Yes
2.3 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
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	Birch, K.S. (in prep.). Lowland Peat Survey Site Report for SH64/27P Llyn Hafod-y-llyn. Natural Resources Wales, Bangor Bosanquet, S.D.S. (2013). Lowland Peat Survey Site Report for SH61/14P Cors Gregennan. Natural Resources Wales, Bangor. Bosanquet, S.D.S. (2015). Lowland Peat Survey Site Report for SH61/14aP Llynnau Cregennan. Natural Resources Wales, Bangor. Dwyer, J. (2018). The Implications of Brexit for Agriculture, Rural Areas and Land Use in Wales. Wales Centre for Public Policy. Guest, D. 2012. Assessing N deposition as a pressure for Article 17 reporting on habitats. CCW HQ internal document. JNCC (2018). Nitrogen exceedance of Annex I habitats in SACs. Excel spreadsheet provided 29 May 2018. Jones, P.S., Bosanquet, S.D.S., Reed, D.K., Birch, K.S., Stevens, J. & Turner, A.J. (2011). The habitat composition and conservation of Welsh lowland mires: preliminary results from the Lowland Peatland Survey of Wales. In: Proceedings of a Memorial Conference for Dr David Paul Stevens 1958-2007: Grassland Ecologist and Conservationist. Eds: Blackstock, T.H., Howe, E.A., Rothwell, J.P., Duigan, C.A & Jones, P.S. pp. 103-115. CCW Staff Science Report 10/03/05, Countryside Council for Wales, Bangor. Jones, P.S., Stevens, J., Bosanquet, S.D.S., Turner, A.J., Birch, K.S. & Reed, D.K. (2012). Distribution, extent and status of Annex I wetland habitats in Wales: supporting material for the 2013 Article 17 assessment. Countryside Council for Wales, Bangor. Kay, L. (2018). N deposition extent of exceedance of CL for article 17 all habitats 2018, Excel s/s/. Natural Resources Wales, Bangor. Milner, R. (2018). H7150_area_results_R-Millner_final. Excel s/s. Natural Resources Wales, Bangor. Natural England and RSPB, 2014. Climate Change Adaptation Manual. NRW (2016a). N2K Wales LIFE Natura 2000 Programme for Wales (LIFE11 NAT/UK/000385). FINAL Report Covering the project activities from 01/09/2012 to 30/09/2015. Report to the EU, NRW, Bangor. NRW (2016b). New LIFE for Welsh Raised Bogs LIFE16 NAT/UK/000646). Application (successful) for EU LIFE Nature Funding. Natural Resources Wales, Bangor.

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NRW (2018a). SAC and SPA Monitoring Programme Results 2013-2018. Internal NRW Dataset (Excel spreadsheet).
NRW (2018b). SAC & SPA Monitoring Programme planning spreadsheet 2013 - 2018. Internal NRW Dataset (Excel spreadsheet).
NRW (2018c). Actions Database. Internal NRW Database.
Prosser, M.V. and Wallace, H.L. (1995). Gwynedd Lowland Heathland Survey 1994. CCW science report no. 113.
Prosser, M.V. and Wallace, H.L. 1998. Lowland Heathland Survey of Wales: The Gower Commons 1997. CCW science report no. 310.
Robinson, F. (2010). Cors Fochno SAC Monitoring Report: Active raised bogs, Degraded raised bogs still capable of natural regeneration and Depressions on peat substrates of the Rhynchosporion. Monitoring Round 2 (2007-2012). CCW Report, February 2010.
Schulz, J. (2004). Late-Holocene mire development of the lowland raised bogs Cors Caron and Cors Fochno: a palaeoecological approach using high resolution macrofossil analysis. Unpublished Ph.D. thesis, University of Southampton.
Stevens, J. (2012a). GIS layer - data processing notes - A17 reporting 2012 H7150. Internal file note, Countryside Council for Wales.
Stevens, J. (2012b). Art17 2012 H7150 Depressions on peat substrates of the Rhynchosporion.lyr. ARC GIS Data layer.
Turner, A., 1996-1998. Unpublished NVC survey of Glyder for CCW.
Wales Audit Office, 2012. Annual Improvement Report. Snowdonia National Park Authority.
Welsh Government (2017). Welsh Statutory Instruments 2017 No. 565 (W. 134) Agriculture Wales: The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017.
(https://gov.wales/topics/environmentcountryside/consmanagement/.../eiahome - accessed 19 June 2018).
Williams, P., Evans, F. & Lewis, H. (2008). Core Management Plan Including Conservation Objectives for Rhinog Special Area of Conservation. Natural Resources Wales.

4. Range

4.1 Surface area (in km²)		
4.2 Short-term trend Period		
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		
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) b) Operator c) Unknown d) Method	No
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

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

5.1 Year or period	1993-2012		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 0.175
5.3 Type of estimate	Minimum		
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data		
5.5 Short-term trend Period	2007-2018		
5.6 Short-term trend Direction	Unknown (x)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Insufficient or no data available		
5.9 Long-term trend Period	1994-2018		
5.10 Long-term trend Direction	Unknown (x)		
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used	Insufficient or no data available		
5.13 Favourable reference area	a) Area (km²) b) Operator c) Unknown No d) Method		
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	Maximum 0
	b) Area in not-good condition (km²)	Minimum 0.134	Maximum 0.134
	c) Area where condition is not known (km²)	Minimum 0.041	Maximum 0.041
6.2 Condition of habitat Method used	Based mainly on extrapolation from a limited amount of data		
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	Uncertain (u)		
6.5 Short-term trend of habitat area in good condition Method used	Insufficient or no data available		
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 management/use of other agricultural and	H

agroforestry systems (all except grassland) (A07)	
Extensive grazing or undergrazing by livestock (A10)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Drainage for use as agricultural land (A31)	H
Drainage (K02)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Problematic native species (I04)	M

Threat	Ranking
Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (A07)	H
Extensive grazing or undergrazing by livestock (A10)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Drainage for use as agricultural land (A31)	H
Drainage (K02)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Problematic native species (I04)	M
Sports, tourism and leisure activities (F07)	M
Droughts and decreases in precipitation due to climate change (N02)	M

7.2 Sources of information

7.3 Additional information

8. Conservation measures

8.1 Status of measures

a) Are measures needed? Yes

b) Indicate the status of measures Measures identified, but none yet taken

8.2 Main purpose of the measures taken

8.3 Location of the measures taken

8.4 Response to the measures

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)
Restore habitats impacted by multi-purpose hydrological changes (CJ03)
Manage drainage and irrigation operations and infrastructures in agriculture (CA15)
Reduce impact of mixed source pollution (CJ01)

8.6 Additional information

9. Future prospects

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

9.1 Future prospects of parameters	a) Range b) Area c) Structure and functions
9.2 Additional information	

10. Conclusions

10.1. Range	
10.2. Area	
10.3. Specific structure and functions (incl. typical species)	
10.4. Future prospects	
10.5 Overall assessment of Conservation Status	
10.6 Overall trend in Conservation Status	
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:
10.8 Additional information	

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 0.153
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Based mainly on extrapolation from a limited amount of data
11.4 Short-term trend of habitat area in good condition within the network Direction	Uncertain (u)
11.5 Short-term trend of habitat area in good condition within network Method used	Insufficient or no data available
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

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Distribution Map

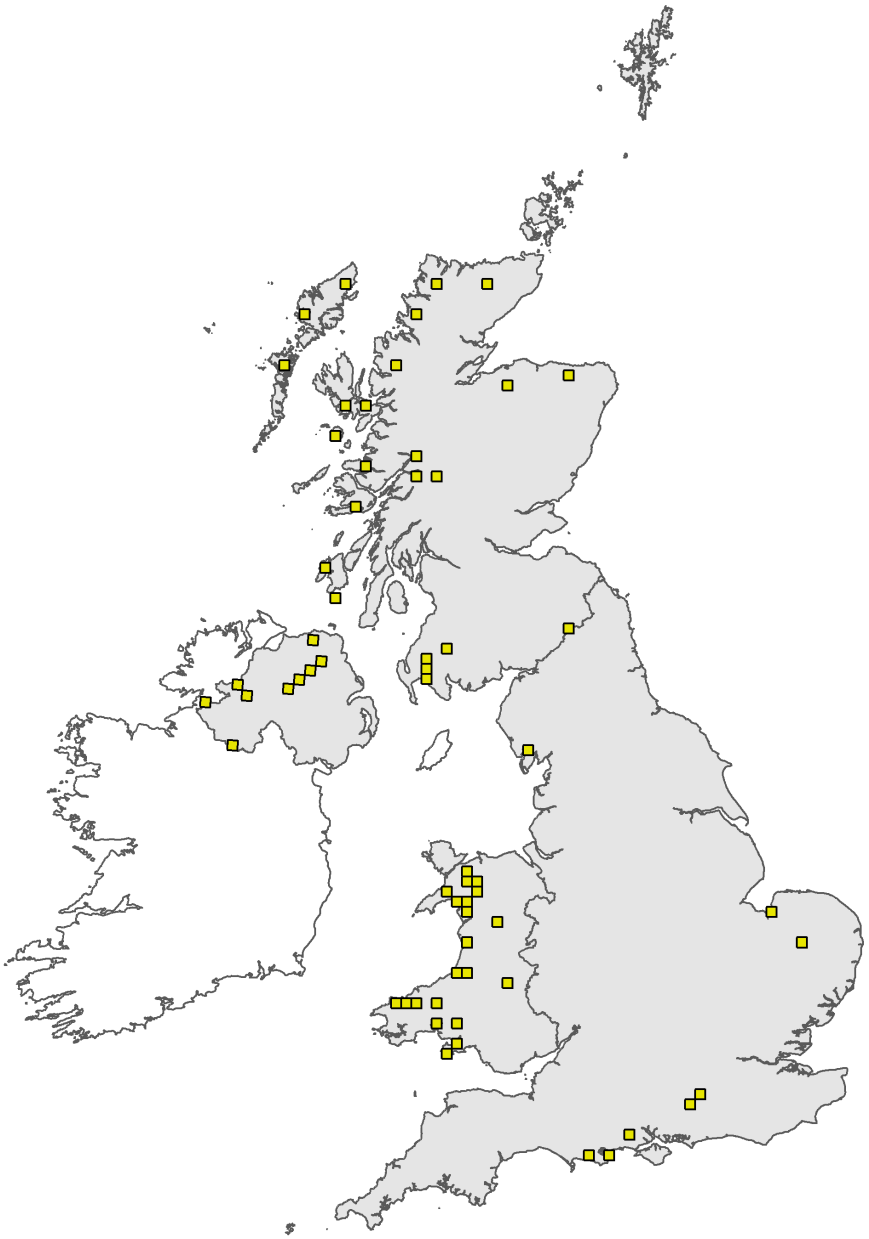

Figure 1: UK distribution map for H7150 - Depressions on peat substrates of the *Rhynchosporion*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

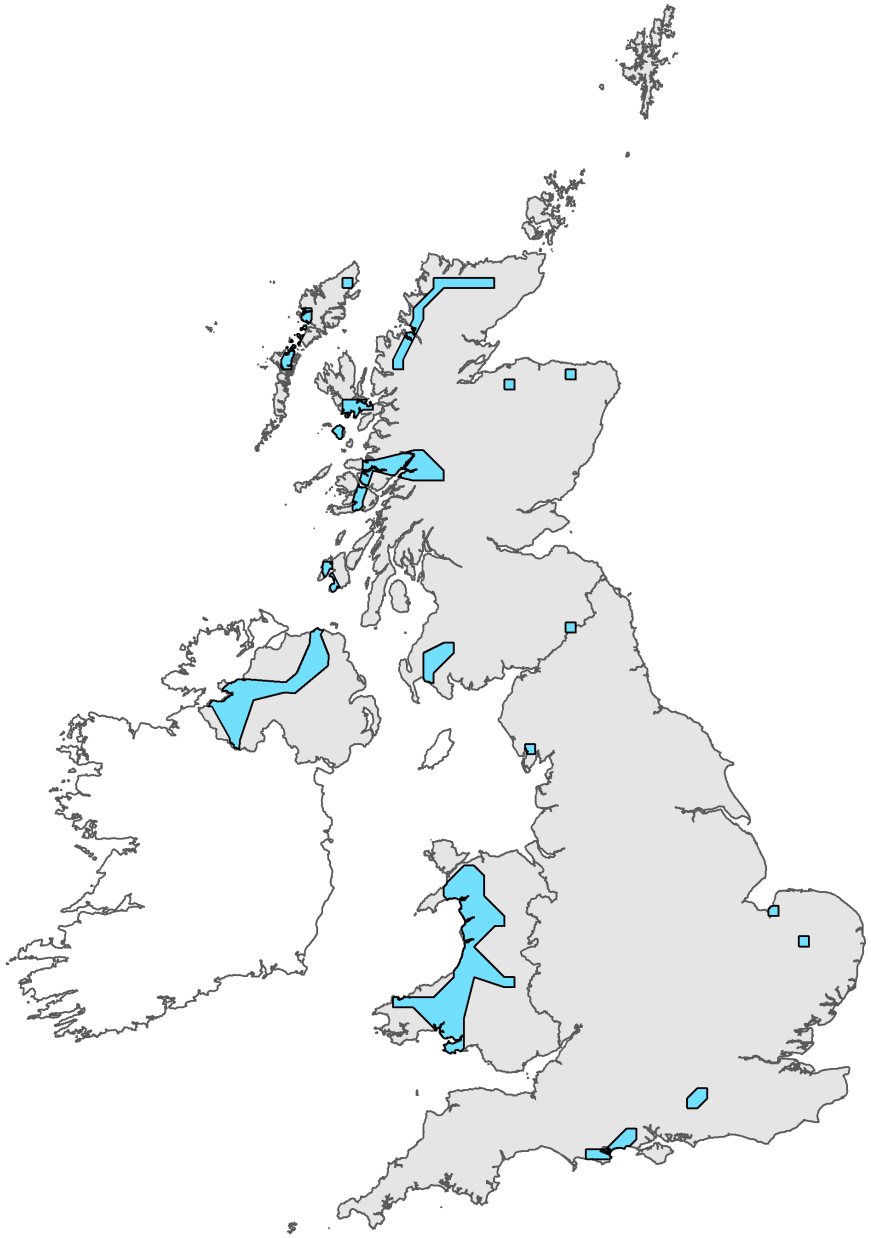

Figure 2: UK range map for H7150 - Depressions on peat substrates of the *Rhynchosporion*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.

Explanatory Notes

Habitat code: 7150

Field label	Note
2.3 Distribution map; Method used	The distribution map provided for this habitat is the same as that used for the 2013 Article 17 reporting round (Stevens, 2012a) - this was a new map prepared for the 2013 Article 17 reporting round. There are 21 hectad records for this habitat based on the 2013 assessment and this is very likely to be an under-representation of the distribution of this habitat in Wales. Inclusion of data collected since 2013 has not been possible for this round, but these data include important Welsh sites for H7150, including Cors Gregennen & Llynnau Cregennen (SH61, Bosanquet [2013,2015]) and Llyn Hafod-y-llyn (SH64, Birch in prep.) which represent new hectad records for this habitat. The distribution map is based on GIS analysis of Phase 2 (plant community level) data. Phase 1 data is of limited use for this habitat because its recognition relies on specific floristic information which unless covered by a target note would not be reflected in the habitat mapping categories employed by Phase 1. Phase 2 mapping yields polygon records assigned to NVC communities/sub-communities and non-NVC units mapped to 1:2500 and transferred to a Mapinfo and then subsequently an ArcGIS platform. Polygons (whether relating to individual vegetation types or mosaics) and some point records for plant communities/sub-communities judged as conforming to this habitat have been selected and used to create a GIS inventory for this habitat. A total of 399 polygon records for this habitat have been used to create the distribution map, with 201 records coming from the Lowland Peatland Survey of Wales (2004 to current) and 184 from the Preseli survey undertaken by the Lowland Peatland Survey team between 2004 and 2005: these surveys together account for 96.5% of the polygon records and thus most records are no older than 2004. The remainder of polygon records come from the Lowland Heathland Survey of Wales (Prosser & Wallace, 1995; 1998) and the Phase 2 survey of Glyderiau (Eryri) undertaken by Alex Turner. A total of 22 point records for this habitat are also included in the distribution map; these include two key sites for this habitat in Wales, namely the large raised bogs of Cors Caron and Cors Fochno.

Habitat code: 7150 Region code: ATL

Field label	Note
4.3 Short term trend; Direction	See 4.11
4.11 Change and reason for change in surface area of range	The distribution data submitted in 2013 has not been updated.Changes in surface area or range may actually have occurred since the last reporting period, but NRW has no system in place for monitoring or recording such changes.
5.1 Year or period	The extent estimate for H7150 is based on the GIS inventory developed by Stevens (2012b) and described under section 4 above. All data were collected between 1993 and 2012 and re-interpreted in 2012 to produce a GIS Inventory. Some 96.5% of the polygon records date from 2004 onwards. No formal condition monitoring of SAC's supporting H7150 as a habitat feature has been undertaken since 2012 (NRW, 2018b), thus the continued presence of the habitat has not been assessed formally.

5.2 Surface area	Inevitable uncertainty surrounds the extent estimate of 0.175 km2 -this is due to the following issues: 1. Extent data for 4 of the 6 SAC sites supporting this habitat as a C/D graded feature have not been included - these include the Cors Caron and Cors Fochno SACs where the habitat has a significant presence. The distribution map records for H7150 for these sites is based on point data only. Robinson (2010) estimates that H7150 occurs over 166 ha of the main central expanse of H7110* at Cors Fochno, but this is not wholly H7150. The extent of this habitat on Rhinog is estimated at 1 ha (Williams et al., 2008) based on survey undertaken by Alex Turner in 2006 - this is very much less than the N2K Standard Data Form value of 78.6 ha. There is, therefore, an urgent need to obtain accurate extent figures for this habitat on the SACs where it occurs as a feature (and on other priority sites for the habitat), not least because of the significant disparity between the sum total of the N2K form estimates for H7150 area (223.7 ha) - which are known to be inaccurate - and the area estimate given above of 17.5 ha. 2. The extent figure above excludes a number of known locations for H7150 surveyed since the last reporting round. Among the more significant of these are Cors Gregennen with 1.4 ha (Bosanquet, 2013), Llynnau Cregennen with 0.125 ha (Bosanquet, 2015) and Llyn Hafod-y-Llyn with 0.7 ha (Birch, in prep.). 3. There are likely to be sites which still support H7150 which remain un-surveyed. 4. Some of the extent data for this habitat date from surveys undertaken over 20 years ago. Revisits to these sites are required to determine any changes in extent and their causation. For these reasons the extent estimate of 0.175 km2 has to be regarded as a minimum figure. H7150 has been recognised from the following community contexts in Wales: M15b & M15d 0.235 ha, M29 0.31 ha, M18b, 0.46, M2a & b 0.65 ha, M16 0.77, M21 1.22 ha, M18a & a/b 1.67 ha, M15a 5.5ha and as a mosaic component with other communities 6.47 ha; H7150 also occurs in small amounts as an element of M30, M1 and the non-NVC types 'short-sedge vegetation' and 'Juncus acutiflorus over short-sedge vegetation'.
5.6 Short term trend; Direction	There is no quantitative evidence on which to assess changes in range or surface area over the short or long term.
5.14 Change and reason for change in surface area	The assessment of 'no' is based on use of the 2012 data with no inclusion of recent survey data coupled with lack of evidence of genuine change due to lack of a system for monitoring and recording changes in the extent of Annex 1 habitats.
6.1 Condition of habitat	The figure of not good is the total extent of this habitat on the two SACs for which reliable extent data are available from the GIS inventory described above (namely Mynydd Preseli - 13.15 ha and Eryri [Glyderiau section only] - 0.23 ha) and for which SAC monitoring for the last reporting round returned a judgement of 'Unfavourable - Declining'. For the purpose of this assessment it is assumed that this condition judgement relates to the whole resource on each site. The area assessed as 'unknown' is the difference between the total area noted under 5 above and the area assessed as in 'Not Good' condition. The feature on the Rhinog SAC was assessed as Favourable - Maintained in August 2010, but as reliable extent data are unavailable for the SAC no entry has been given under the 'Good' category above.
6.2 Condition of habitat; Method used	Assessment of structure and function within SACs is based on the results of common standards monitoring visits undertaken between 2009 and 2012 (NRW, 2018a). The spreadsheet cited as NRW (2018a) has been analysed to extract monitoring data for SAC sites for the Rhynchosporion feature (global grades A-C). The related spreadsheet NRW (2018b) has then been checked to see if any monitoring results have been reported which do not figure in NRW (2018a). No new SAC monitoring data has been collected since the last reporting round for this feature (NRW, 2018b). Data up until 2012 indicated the feature was only Favourable (Favourable Maintained) on one SAC (Rhinog), with judgements of Unfavourable - Declining for three others (Cors Caron, Eryri and Preseli) and Unfavourable - Recovering for Cors Fochno: the feature on Migneint (D grade) was not assessed.

6.5 Short term trend of habitat area in good condition; Method used	The five SACs supporting H7150 as a C feature have all received two rounds of monitoring (the first and second rounds), but none were monitored during the third round running up to the current reporting exercise - hence the assessment of 'insufficient or no data available'. However, between the first and second reporting rounds, the status of this feature deteriorated at three sites (Cors Caron, Eryri and Preseli), changing from favourable to unfavourable at two. The condition of the feature at the other two sites with a qualifying presence of H7150 showed no change, remaining at favourable maintained at one (Rhinog). No information on the condition of this feature outside the N2K series has been collated and we are uncertain as to whether any information is available.

7.3 Additional information

Overview Analysis of Pressures and Threats has utilised a number of data sources, with NRWs Action Database (NRW, 2018c) serving as a critical resource. This provides information on 'issues' affecting habitats and species within the protected sites series in Wales and contains a total of 54 management issue entries against the 'Depressions on peat substrates of the Rhynchosporion' feature description, of which 45 management issues remain categorised as 'C' and requiring ongoing control. These apply across a total of just 13 management units (many units have more than one management issue recorded) on 5 SSSI, including all of the SACs for which this habitat has a qualifying (C grade) presence: Migneint-Arenig-Dduallt is not included, reflecting the status of H7150 as a D grade feature there. Restricting the search term to 'Depressions on peat substrates of the Rhynchosporion' means that only data for SAC SSSI are reported here. These data are thus not wholly representative of the wider resource as it is to be expected that conservation measures would better mitigate pressures and threats inside the SAC series. However, use of the more general peatland SSSI feature search terms would lead to many more records applying to peatland habitats other than H7150. Pressures: A07. Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) & A10 Extensive grazing or undergrazing by livestock . Insufficient grazing is noted as a high priority and high urgency issue in the Rhinog SAC Prioritised Improvement Plan (PIP) (NRW, 2016); the closely related issue of grazing type and/or timing is a high priority and high urgency issue in the PIP for Preseli. Insufficient grazing is a current issue across 4 management units for both of these SACs in NRWs Actions Database (NRW,), with grazing type and/or timing issues related to under-grazing cited for 8 units on 3 SACs. JO3 Mixed source air pollution, air-borne pollutants Air pollution is cited as a current issue for 8 units across 3 of the SACs supporting this habitat in NRWs Actions Database (NRW, 2018c): it is cited as a high priority issue in the PIPs for all 5 SACs supporting a qualifying presence (C grade) of H7150. The extent of the H7150 resource in Wales subject to N deposition in excess of the critical load for this habitat (10 kg N/ha/yr) has been assessed using the approach of Guest (2012) and using updated deposition data, but based on the original 2012 extent figure of 17.54 ha. Using a data overlay method in ARC GIS (Kay, 2018), 99% of the habitat by area (polygon data) was recorded at or above the relevant lower Critical Load limit. A31. Drainage for use as agricultural land & K02 Drainage Issues relating to drainage for agricultural activities are cited variously as 'Ditch Management', 'Water Levels' and 'Drainage in the PIPs, with at least one of these cited as a high priority and high urgency issue on both the Cors Caron and Cors Fochno SACs (NRW, 2016). This reflects the significance of ongoing drainage in reducing the area of raised bog habitat capable of supporting this feature. 'Ditch Management' is also cited as a current issue for this habitat in NRWs Actions Database for Preseli (2 units), and 'Drainage' for two units on Rhinog. Other drainage impacts (covered as K02) result from the ongoing effects of past (i.e. historic) peat cutting: this is a particular issue for Cors Caron and Cors Fochno. I02 Other invasive alien species (other than species of Union concern) Terrestrial non-native species are cited as an issue for two management units on two SACs supporting this habitat (NRW,) - this relates to conifer regeneration and colonisation by Rhododendron. This is cited as a medium priority high threat issue in the PIP for Rhinog (NRW, 2016). I04. Problematic native species Scrub invasion is cited as a high priority and high urgency issue in the PIP for Cors Caron (NRW,) and is regarded as a current issue both for this site and Cors Fochno in NRWs Actions Database (NRW, 2018c). This issue is primary a consequence of the drainage-related impacts cited above. A26 Agricultural activities generating diffuse pollution to surface or ground waters Diffuse water pollution is cited as an issue for one unit on Preseli (NRW, 2018c) but is regarded as a low priority pressure/threat in this assessment given the upland and/or ombrogenous context of most examples. A25 Agricultural activities generating point source pollution to surface or ground waters 'Water pollution - discharge(s)/point source (inc. thermal, radioactive and oil)' is cited as a current issue for one Eryri unit supporting this habitat. F07 Sports, tourism and leisure activities The

issue 'Access/Use - erosion/disturbance/damage' is identified for two units on two sites (Eryri and Cors Fochno) but is regarded as a low risk pressure currently. N02 - Droughts and decreases in precipitation due to climate change N01 - Temperature changes (e.g. rise of temperature & extremes) due to climate change There is no specific evidence indicating impacts due to these pressures at the present time, though any such effects would be similar to the widely observed consequences of dereliction. Threats: A07. Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) & A10 Extensive grazing or undergrazing by livestock . The predicted post-Brexit decline in the economic viability of sheep production (Dwyer, 2018) suggests that the risk of under-grazing will continue and possibly intensify as a threat to H7150 if un-mitigated by future public/financial support mechansims. A31. Drainage for use as agricultural land & K02 Drainage The New LIFE for Welsh Raised Bogs LIFE project will achieve significant hydrological restoration benefits at Cors Fochno and Cors Caron during the forthcoming reporting period, but cannot fully restore the hydrological regimes of the sites to a point where H7150 recovers to its original natural 'footprint' - thus this threat will continue, albeit to a lesser extent than currently. Drainage is unlikely to feature as a significant threat at either Preseli or Rhinog. The extent to which drainage will continue as a threat for other sites supporting H7150 is unclear. F07 Sports, tourism and leisure activities Visitor pressure has continued to rise in recent years with an 18% increase in the number of walkers on the footpaths of Snowdon between 2009/10 and 2010/2011 (Wales Audit Office 2012). There is some risk that the threat posed by this activity will increase during the next reporting period, chiefly affecting upland/upland fringe sites. JO3 Mixed source air pollution, air-borne pollutants Despite modest projected reductions in the overall deposition rates for atmospheric nitrogen in the UK, air pollution is expected to remain a High pressure (threat) to the habitat in Wales. A provisional analysis using projected exceedance data for 2030 indicates that the area of SAC (on which H7150 is a feature) which falls in areas where deposition is above the relevant critical load will only fall by c. 0.2% from the 2013-2015 estimate by 2030 (JNCC, 2018). N02 - Droughts and decreases in precipitation due to climate change The sensitivity to climate change of three of the habitats which commonly host H7150 in Wales (upland heathland, lowland heathland and blanket bog) has been assessed as 'Medium' by Natural England & RSPB (2014) - this source does not provide an assessment for lowland raised bog. H7150 in heathland contexts may be especially prone to climate change given its occurrence on shallow drought-prone peats.

8.5 List of main conservation measures	Some measures are already in place against each of these activities. A significant proportion of the known resource (13.38 ha) of this habitat was included in SAC as a notified feature at the time of the 2012 reporting round and most of the raised bog resource (including Cors Caron, Cors Fochno and Cors Goch Llanllwch) is NNR. Ensuring appropriate (light) grazing of the upland and upland margin sites (notably Rhinog and Preseli) is critical and is registered as measures CA03 and CA05 above: most actions identified against these measures remain outstanding (NRW, 2018c). In terms of measures CJ03 and CA15, significant work has already been taken to address the hydrological impacts posed by peripheral (and in some cases internal) drainage of the larger bog sites, and a major programme of work is about to commence as part of the New LIFE for Welsh raised bogs project (NRW, 2016b). This will create suitable conditions for the eventual expansion of this habitat within the other principal Annex 1 habitat which hosts it on the raised bogs sites - Active raised bog H7110*. However, until the deep peripheral drainage is fully addressed on these sites, H7150 will not be restored to occupy its full natural eco-hydrological footprint. In terms of N deposition (CC10 and CA12), national regulations are in place but have been insufficient to prevent continued high levels of N deposition nationally (CC10) and local sources (CA12). The area of this habitat subject to critical load exceedance is not expected to reduce between now and 2030. Focussed monitoring/research is required to understand the impacts of nitrogen deposition on the habitat and implement effective mitigation. The New LIFE for Welsh Raised Bogs project (NRW, 2016b) will effectively tackle the spread of invasive woody species (CL01) at the two sites where this remains a current issue (NRW, 2018c), namely Cors Caron and Cors Fochno. Measures to address diffuse terrestrial pollution (CA11) could be an effective means of reducing the impact of air pollution (CJ01) by reducing overall nutrient loading - this requires only localised action given the context of most stands of H7150 in Wales. Addressing the seeding in of conifers and Rhododendron (CI04) remains an outstanding issue on both of the SACs where it is cited (Cors Caron and Rhinog).
9.1 Future prospects of parameters	9.1a. No significant change in actual range is expected in the medium term, though the discovery of new locations may add elements to the existing range map.
9.1 Future prospects of parameters	9.1b. Area is judged as unlikely to decline during the next 12 years (the period in question), not least because a majority of the known key sites are designated. Restoration management undertaken as part of the New LIFE for Welsh Raised Bogs project (NRW, 2016b) should arrest any short-term loss at the key raised bog sites and will hopefully secure some localised expansion of the habitat. Mapping H7150 on the key raised bog SAC sites will result in an increase in the area estimate for this habitat; new sites are also likely to be discovered through ongoing survey.
9.1 Future prospects of parameters	9.1c. This reflects the currently poor or unknown condition of the majority of the resource (see section 6) coupled with the very modest inclusion of this habitat in agri-environment and NRW management agreements. Glastir Advanced agreements were estimated in 2018 to only cover a maximum possible area of 0.98 ha of this habitat (Milner, 2018 - this figure assumes no overlap in prescriptions), with Glastir Entry covering a maximum possible area of 0.62 ha. The inclusion of H7150 in NRW management agreements on SSSIwith blanket or raised bog as a feature and under a Land Agency agreement was estimated to extent to just 0.27 ha in 2012. This assessment also reflects the nature of the threats described under section 7.
11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network	This is a new estimated derived in 2018 from digital comparison of the GIS habitat layer with SAC boundaries (Milner, 2018).
11.4 Short term trend of habitat area in good condition within the network; Direction	The is assessed as unknown due to the lack of third round condition data for the SAC resource. The area in good condition should increase in time as a result of the implementation of actions in the New LIFE for Welsh Raised Bogs Project (NRW, 2016b).