Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A

2019-2024

Conservation status assessment for the habitat:

H7130 - Blanket bogs

Wales

Cyfoeth Naturiol Cymru
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JNCC

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This report was produced by JNCC in collaboration with Natural Resources Wales.

This document should be cited as:

Natural Resources Wales and JNCC. (2026). Conservation status assessment for the habitat: H7130 Blanket bogs.

Important note - Please read

- The information in this document represents Wales Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A, for the period 2019-2024.
- It is based on supporting information provided by Natural Resources Wales, which is documented separately.
- The Habitats Regulations reporting 2019-2024 Approach Document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- Maps showing the distribution and range of the habitat are included.
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the assessments. Further underpinning explanatory notes are available in the related country 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 habitat (section 11 National Site Network coverage for Annex I habitats).

Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the JNCC website.

Assessment Summary: Blanket bogs

Distribution Map

Range Map

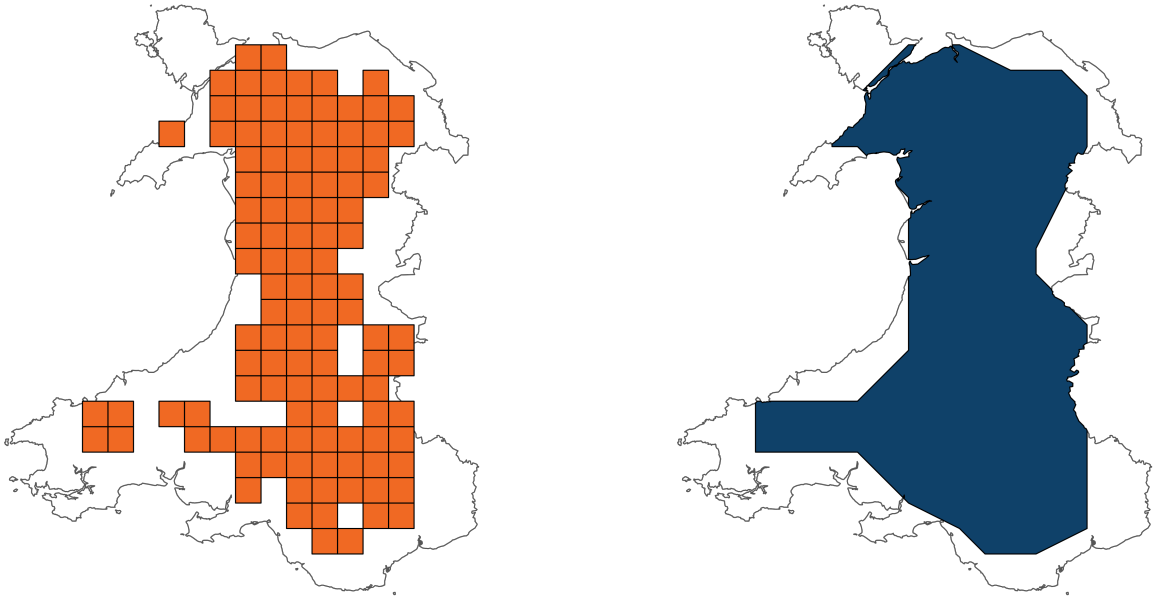

Figure 1: Wales distribution and range map for H7130 - Blanket bogs. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available habitat records within the current reporting period.

Table 1: Table summarising the conservation status for H7130 - Blanket bogs. Overall conservation status for habitat is based on assessments of range, area covered by habitat, structure and functions, and future prospects.

Overall Conservation Status (see section 10)

Unfavourable-bad (U2)

Breakdown of Overall Conservation Status

Range (see section 4)	**Unfavourable-inadequate (U1)**
Area covered by habitat (see section 5)	**Unfavourable-bad (U2)**
Structure and functions (see section 6)	**Unfavourable-bad (U2)**
Future prospects (see section 9)	**Unfavourable-bad (U2)**

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National Level

1. General information

1.1 Country	Wales
1.2 Habitat code	H7130 - Blanket bogs

2. Maps

2.1 Year or period	1979-2012
2.2 Distribution map	Yes
2.3 Distribution map; Method used	Based mainly on extrapolation from a limited amount of data

2.4 Additional information

No additional information

Biogeographical Level

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	ATL

3.2 Sources of information

See section 13 References

4. Range

4.1 Surface area (km²)	14,315.84
4.2 Short-term trend; Period	2013-2024
4.3 Short-term trend; Direction	Decreasing
4.4 Short-term trend; Magnitude	

a) Estimated minimum

b) Estimated maximum	
c) Pre-defined range	
d) Unknown	Yes
e) Type of estimate	Best estimate
f) Rate of decrease	Decreasing <=1% (one percent or less) per year on average
4.5 Short-term trend; Method used	Based mainly on expert opinion with very limited data
4.6 Long-term trend; Period	2000-2024
4.7 Long-term trend; Direction	Decreasing
4.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	Decreasing <=1% (one percent or less) per year on average
4.9 Long-term trend; Method used	Based mainly on expert opinion with very limited data

4.10 Favourable Reference Range (FRR)

a) Area (km²)	
b) Pre-defined increment	Current range is less than 2% smaller than the FRR
c) Unknown	No
d) Method used	Reference-based approach
e) Quality of information	moderate

4.11 Change and reason for change in surface area of range

a) Change	Yes
b) Genuine change	Yes

c) Improved knowledge or more accurate data	No
d) Different method	No
e) No information	No
f) Other reason	No
g) Main reason	Genuine change

4.12 Additional information

No additional information

5. Area covered by habitat

5.1 Year or period	1979-2012
5.2 Surface area (km²)	
a) Minimum	
b) Maximum	
c) Best single value	532
5.3 Type of estimate	Best estimate
5.4 Surface area; Method used	Based mainly on extrapolation from a limited amount of data
5.5 Short-term trend; Period	2013-2024
5.6 Short-term trend; Direction	Decreasing
5.7 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	Decreasing 0 - 12%
d) Unknown	No
e) Type of estimate	Best estimate
f) Rate of decrease	Decreasing <=1% (one percent or less) per year on average

5.8 Short-term trend; Method used	Based mainly on expert opinion with very limited data
5.9 Long-term trend; Period	2000-2024
5.10 Long-term trend; Direction	Decreasing
5.11 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	Decreasing <=1% (one percent or less) per year on average
5.12 Long-term trend; Method used	Based mainly on expert opinion with very limited data
5.13 Favourable Reference Area (FRA)	
a) Area (km²)	
b) Pre-defined increment	Current area is between 11% and 25% smaller than the FRA
c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	

5.14 Change and reason for change in surface area of range

a) Change	Yes
b) Genuine change	Yes
c) Improved knowledge or more accurate data	No
d) Different method	No
e) No information	No

f) Other reason	No
g) Main reason	Genuine change

5.15 Additional information

No additional information

6. Structure and functions

6.1 Condition of habitat (km²)

Area in good condition	
ai) Minimum	5.85
aii) Maximum	5.85
Area not in good condition	
bi) Minimum	516.04
bii) Maximum	516.04
Area where condition is unknown	
ci) Minimum	10.11
cii) Maximum	10.11
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	
6.4 Short-term trend of habitat area in good condition; Direction	Unknown
6.5 Short-term trend of habitat area in good condition; Method used	Based mainly on extrapolation from a limited amount of data

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

Typical species were not used directly in the assessment of conservation status for habitat structure and function as a comprehensive list of typical species for each habitat was not available. However, the status of typical species was considered when the condition of individual sites was assessed using Common Standards Monitoring Guidance. Common Standards Monitoring (CSM) data was used to assess the area of habitat in 'good' and 'not good' condition (field 6.1). Species were a component of the attributes assessed under CSM. Therefore, an assessment of species is considered to have formed part of the reporting under field 6.1 which supported the Habitats Structure and Function assessment (field 10.3).

7. Main pressures

7.1 Characterisation of pressures

Table 2: Pressures affecting the habitat, including timing and importance/impact ranking. Pressures are defined as factors acting currently and/or during the reporting period (2019–2024). Rankings are: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Pressure	Timing	Ranking
PI03: Problematic native species	Ongoing and likely to be in the future	High (H)
PA08: Extensive grazing or undergrazing by livestock	Ongoing and likely to be in the future	High (H)
PA22: Drainage for use as agricultural land	Ongoing and likely to be in the future	High (H)
PB24: Drainage for forestry	Ongoing and likely to be in the future	High (H)
PA07: Intensive grazing or overgrazing by livestock	Ongoing and likely to be in the future	High (H)
PK03: Mixed source air pollution, air-borne pollutants	Ongoing and likely to be in the future	High (H)
PB03: Introduction and spread of new species for forestry purposes (including GMOs)	Ongoing and likely to be in the future	Medium (M)

PB01: Conversion to forest from other land uses, or afforestation (excluding drainage)	Ongoing and likely to be in the future	Medium (M)
PB23: Physical alteration of water bodies for forestry (including dams)	Ongoing and likely to be in the future	Medium (M)
PD01: Wind, wave and tidal power (including infrastructure)	Ongoing and likely to be in the future	Medium (M)
PH08: Other human intrusions and disturbance not mentioned above	Ongoing and likely to be in the future	Medium (M)
PA09: Burning for agriculture	Ongoing and likely to be in the future	Medium (M)
PG09: Management of fishing stocks and game	Ongoing and likely to be in the future	Medium (M)
PJ01: Temperature changes and extremes due to climate change	Ongoing and likely to be in the future	Medium (M)
PJ03: Changes in precipitation regimes due to climate change	Ongoing and likely to be in the future	Medium (M)
PK04: Atmospheric N-deposition	Ongoing and likely to be in the future	High (H)

7.2 Sources of information

See section 13 References

7.3 Additional information

No additional information

8. Conservation measures

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 structure and functions, including the status of typical species (related to ‘Specific structure and functions’)

8.3 Location of the measures taken	Both inside and outside National Site Network
8.4 Response to measures	Medium-term results (within the next two reporting periods, 2025–2036)

8.5 List of main conservation measures

Table 3: Key conservation measures addressing current pressures and/or anticipated threats during the next two reporting periods (2025–2036). Measures are ranked by importance/impact: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Conservation measure	Ranking
MA05: Adapt mowing, grazing and other equivalent agricultural activities (e.g. burning)	High (H)
MK03: Restoration of habitats impacted by multi-purpose hydrological changes	High (H)
MA11: Reduce/eliminate air pollution from agricultural activities	High (H)
MB06: Stop forest management and exploitation practices	High (H)
MJ02: Implement climate change adaptation measures	High (H)
MA06: Stop mowing, grazing and other equivalent agricultural activities e.g. burning (incl. restore or improve habitats)	High (H)
MC09: Manage/reduce/eliminate air pollution from resource exploitation and energy production	Medium (M)
MB01: Prevent conversion of (semi-) natural habitats into forests and of (semi-) natural forests into intensive forest plantation	Medium (M)
MB05: Adapt/change forest management and exploitation practices	High (H)
MB14: Manage drainage and water abstraction for forestry (inc. restoration of drained or hydrologically altered habitats)	High (H)
MI03: Management, control or eradication of other invasive alien species	Medium (M)
MC03: Adapt/manage renewable energy installation, facilities and operation (excl. hydropower and abstraction activities)	Medium (M)
MA01: Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land	Medium (M)

MS04: Manage native species (incl. non-Directive species)	Medium (M)
MK02: Reduce impact of multi-purpose hydrological changes	High (H)
MM04: Other measures related to natural processes	Medium (M)

8.6 Additional information

No additional information

9. Future prospects

9.1a Future trends of parameters

ai) Range	Negative - decreasing <=1% (one percent or less) per year on average
bi) Area	Positive - increasing <=1% (one percent or less) per year on average
ci) Structure and functions	Negative - slight/moderate deterioration

9.1b Future prospects of parameters

aii) Range	Poor
bii) Area	Poor
cii) Structure and functions	Bad

9.2 Additional information

No additional information

10. Conclusions

10.1 Range	Unfavourable-inadequate (U1)
10.2 Area	Unfavourable-bad (U2)
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	Deteriorating

10.7 Change and reason for change in conservation status

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

10.7 Change and reason for change in conservation status trend

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

10.8 Additional information

No additional information

11. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex I habitat types

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (km²)

a) Minimum	
b) Maximum	
c) Best single value	203.58
11.2 Type of estimate	Best estimate
11.3 Habitat area inside the network; Method used	Based mainly on extrapolation from a limited amount of data
11.4 Short-term trend of habitat area within the network; Direction	Unknown

11.5 Short-term trend of habitat area within the network; Method used	Based mainly on extrapolation from a limited amount of data
11.6 Short-term trend of habitat area in good condition within the network; Direction	Unknown
11.7 Short-term trend of habitat area in good condition within the network; Method used	Based mainly on expert opinion with very limited data

11.8 Additional information

No additional information

12. Complementary information

12.1 Justification of percentage thresholds for trends

No justification information

12.2 Other relevant information

No other relevant information

13. References

Biogeographical and marine regions

3.2 Sources of information

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NRW (2018b). Actions Database. Internal NRW Dataset.

Perry, K. (2016) Changes in the grazing regimes on Elenydd Site of Special Scientific Interest and the experimental management of Molinia caerulea. In: Managing Molinia? Proceedings of a 3-day conference 14-16 September 2015 in Huddersfield, West Yorkshire, UK. Ed. R. Meade. Pp 165-184.

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Main pressures

7.2 Sources of information

No sources of information

14. Explanatory Notes

Field label	Note
2.1: Year or period	No new mapping evidence since 2012 has been incorporated.
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. This was a new map prepared for the 2013 Article 17 reporting round (Stevens, 2012a). The general approach to collating data for the distribution map is described by Stevens (2012). NVC data from upland NVC surveys has been used wherever possible; data for uplands not covered by NVC survey has been taken from the Phase 1 1km square database where centroids of 1 km squares lie outside upland NVC site boundaries. Of the 6247 habitat records collated by Stevens & Jones (2012), 1994 are derived from the Phase 1 Habitat Survey of Wales (Blackstock et al., 2010) survey, 1664 from the Lowland Peatland Survey of Wales (Jones et al., 2011), with the remaining 2589 records coming from Phase 2 NVC surveys of the following upland blocks: Brecon Beacons (2004), Bwlch Corog (2005), Carneddau extensions (2001), Eastern Carneddau (2002), Elenydd (2002), Glyderiau (1996-1998), Glyder extensions (2002), Migneint-Dduallt (2002), Mynydd Llangatwg_Mynydd Llangynidr (2003), Mynydd Preseli SSSI (2004-2005), Pumlumon (2004), Rhinog SSSI (2003), Western Carneddau (2002)- see Turner (2011) for references and further details. This means that at least 68% of the records date from 1996 or later. There are 115 hectad records for this habitat in Wales, based on the 2012 data. Due to issues of commercial confidentiality, it has not been possible to include the now extensive plant community level data available for the many upland sites subject to windfarm applications in Wales. Further lowland records for this habitat are likely to arise leading up to completion of

	NRWs Lowland Peatland Survey of Wales programme. Together these sources provide a reasonably accurate impression of the distribution of this habitat but for the reasons identified here the overall dataset is not regarded as comprehensive. Stevens (2012) provides comprehensive notes on the approach taken to mapping the distribution of this habitat and reporting on its extent.
3.2: Sources of information	This reference list is based on that used for previous reporting rounds and has not been updated.
4.3: Short-term trend; Direction	This account is based on the 2018 report but with some additions for 2025. There is no system in place for monitoring and recording losses and gains of blanket bog across Wales. Some localised loss of bog must inevitably have occurred during this period as a result of the growth/maturation of conifer crops planted before or leading into this period. Losses have also occurred to windfarm infrastructure and also probably to agricultural improvement – particularly on upland margin examples – and to climate change. An unknown but suspected to be significant area of restorable blanket peat has been restocked with conifers. Some gains in area since 2013 have occurred following the permanent removal of conifers on parts of the Welsh Government Woodland Estate (see also 9.1) and subsequent rewetting measures undertaken as part of the National Peatland Action Programme. These changes are relatively unlikely to have resulted in significant changes to the overall 10 km2 distribution or linked range (which would require either the loss of all examples within a given hectad or habitat recreation/restoration within a previously unoccupied square), however the possibility cannot be discounted. We do not have the data to assess the balance between loss and recovery but most restoration is taking place within the core of the range and expert option suggests losses will include edge of current range examples, hence the judgement of decreasing.

4.11: Change and reason for change in surface area of range	The range data have not been updated for this reporting round; Tthe judgement is based on expert judgement.
5.2: Surface area	This is based on the habitat inventory described under distribution and based on Stevens & Jones (2012) and has not been changed for the 2025 reporting round.
5.6: Short-term trend; Direction	See 5.8 below.
5.8: Short-term trend; Method used	There is no system in place for monitoring and recording losses and gains of habitat resources across Wales. Some gains in area since 2007 are likely as a result of the permanent removal of conifers on the Welsh Government Woodland Estate (see also 9.1); however the area of peatland actually recovering as blanket bog in these contexts has not been assessed.
5.10: Long-term trend; Direction	NRW lacks a system for recording losses and gains of habitat in Wales.
5.14: Change and reason for change in surface area	The extent estimate is the same as that submitted in the 2013 report and is based on the same underpinning data (Stevens & Jones, 2012). It has not been possible to incorporate any additional data; all reported trends are based on expert opinion.
6.1: Condition of habitat	New information added for 2025. This assessment of condition is based upon the results of the 2020 Protected Sites Baseline Assessment (2020 PSBI, Natural Resources Wales / Protected sites baseline assessment 2020) with expert moderation provided by PSJ in March 2025. Area figures for each blanket bog feature have been added manually from the Safle database version of 26/3/25. Not all sites have area estimates for this feature, this being the case for the Black Mountains and Blorenge. One site (Pysgodlyn Mawr) has blanket bog as a wrongly identified feature. For the remaining 30 SSSI for which condition assessments for blanket bog figures as an individually qualifying or complementary feature are available, the total extent is 31,146 ha. Whilst areas of

	good condition blanket bog undoubtedly occur on a number of SSSI, the feature-focussed approach to reporting condition only provides information at whole feature level. Four sites were recorded as favourable but these results have been moderated (reduced) based on expert option. Several key sites where condition was recorded as unknown have been re-assessed as unfavourable, most notably Elenydd. After moderation, the proportions are as follows: favourable 0.011, unfavourable 0.97 and unknown 0.019. Applying these figures as proportions to the 532 km2 area estimate gives the figures provided under 6.1 b and c. Prior to moderation an estimated 1429 ha of blanket bog were in good condition.
6.2: Condition of habitat; Method used	See discussion under 6.1 above. A better assessment of the condition of Welsh blanket bog is urgently required which assesses the relative area of each condition state on each site.
6.4: Short-term trend of habitat area in good condition; Direction	This assessment reflects the efforts since 2020 of the National Peatland Action Programme in Wales, with a total restoration footprint to-date of 8265 ha across upland peatlands (predominantly blanket bog). However, this is set against concerning trends reflecting the influence of atmospheric nutrient deposition, conifer invasion, and climate change. There isn't sufficient monitoring data to indicate anything other than unknown.
7.1: Characterisation of pressures	This analysis is based largely on that used for the 2018 reporting period. Analysis of Pressures and Threats has utilised a number of data sources, with NRWs Action Database (NRW, 2018b) serving as a critical resource. A search has been conducted using the feature types 'blanket bog' (H7130) and the wider feature type 'blanket bog – other ombrogenous mire' because of the relatively close overlay between these feature types. The Actions Database (NRW, 2018b) provides information

on 'issues' affecting habitats and species within the protected sites series in Wales and contains a total of 2664 management issue entries against the two feature types, of which 2174 remain categorised as 'C' and requiring ongoing control, with 432 'R' (resolved), 21 'W' (withdrawn) and 37 un-assigned. These apply across a total of 540 management units (many units have more than one management issue recorded) on 38 SSSI, including all of the SACs for which this habitat is a feature. Of the 38 SSSI, the feature 'blanket bog – other ombrogenous mire' is considered likely to be incorrect or at least dubious for 3 sites (namely Cors Bwlch-y-baedd, Llay Bog and Rhos-Rydd); data for these sites have been excluded in the following analysis. Double counting of pressures, as might occur for units with both features recorded, has been avoided by deleting any duplicate entries for current issues on units.

The Prioritised Improvement Plans (PIPs) for Welsh SACs (NRW, 2016a) have also been consulted for all SACs supporting H7130 as a C grade feature or higher. These score pressures according to priority and urgency, using High, Medium and Low scores (NRW, 2016a).

Pressures:

PI03 Problematic native species

The pressure of problematic native-species centres around the over-dominance of Molinia caerulea and, increasingly, Calluna vulgaris in response to a range of past and current management issues and environmental pressures: these include past over-grazing and burning, drainage, and under- or inappropriate grazing coupled to atmospheric nitrogen deposition. Dominance by Molinia is most problematic in mid and south Wales, whilst Calluna dominance is becoming a major issue in north Wales where Calluna-Eriophorum bog is widespread, chiefly in response to reduced grazing levels and a decline in traditional heft-

based grazing systems. See also PA08.

PA08 Extensive grazing or undergrazing by livestock

Insufficient grazing is recognised as a current issue for 63 units on 11 sites and is a high or medium priority issue in the PIPs for 4 SACs. Insufficient grazing and over-grazing are closely linked to the related pressure of 'grazing type/ and or timing, which is listed as a current issue for 177 units on 20 SSSI: this is listed as an issue in the PIPs for all but one of the 8 blanket bog SACs, and a high or medium priority issue for five SACs. The issue of invasive 'Terrestrial - native and archaeophyte' is probably closely linked to extensive grazing and is a current issue for 20 units on 9 SSSI; scrub; the issue of scrub-invasion affects 30 units on 9 sites and links to pressure PI03 problematic native species. The related issue of 'insufficient cutting/ mowing' affects 27 units on 7 SSSI and relates in the main to the lack of sufficient cutting to enable grazing.

PA22 Drainage for use as agricultural land.

Evans et al. (2015) estimate that drainage amounts to a total length of 1502 km on upland deep peat soils in Wales. This assessment only covered c. 73% of the unafforested upland deep peat resource, so the true figure is likely to be closer to 2057 km: a significant proportion of this is likely to be blanket bog. Up until 2016 it is estimated that only 742 km of drainage ditches on blanket bog had been blocked (NRW, 2016b). Thus this has been a significant pressure since the 2012/13 reporting round. Drainage remains cited as a current issue for 81 units across 9 SSSI and is noted in the PIPs as a High Priority issue for Migneint and the Berwyn. The closely related issue of ditch management is a current issue for 22 units on 9 SSSI, with water levels cited as a current issue for 3 units on 2 SSSI. Collectively, these three issues remain current for 106 units on 14 sites. Some hydrological pressures result from the forestry activity PB23 Physical alteration of water bodies for

forestry (including dams), but it has not been possible to assess how many reported hydrological pressures in the Actions Database are directly attributable to this.

PA07 Intensive grazing or overgrazing by livestock

Over-grazing has remained an issue throughout the reporting period, being listed as a current issue on 74 units across 12 SSSI. It remains cited as a pressure (between low and high) for 4 of the SACs supporting this feature in NRWs Prioritised Implementation Plans (NRW, 2016a). Intensive grazing is one of the main causal factors of peat erosion, which affects a minimum of 183 locations (chiefly upland blanket bog) in Wales, with erosion affecting c. 542 ha (NRW, 2016c).

PK04 Atmospheric N-deposition and PK03 - Mixed source air pollution, air-borne pollutants

Air pollution (N deposition) (PK04) is assessed separately using the agreed approach and updated deposition data. Using a data overlay method in ARC GIS, 100% of the habitat by area (polygon data) was recorded at or above the relevant lower Critical Load limit (5 kg N/ha/yr). Atmospheric pollution has been identified as a current issue on 312 land management units across 14 SSSI (NRW, 2018b). This is cited as a high priority pressure in the Prioritised Action Plans for 6 of the 8 SACs supporting this feature (NRW, 2016); it should be recognised for the remaining two (Migneint and Elenydd).

PB03 Introduction and spread of new species for forestry purposes (including GMOs)The issue of Impacts from terrestrial non-native species is reported as current for 33 units on 9 SSSI in NRW (2018c) and some of this is attributable to the spread of self-sown conifers onto areas of blanket bog fringing conifer forestry. There is a close inter-relationship between this pressure and PA08 as under-grazing and inappropriate grazing stock are a

contributory factor. This is classed as a medium priority threat in the PIPs for three SAC.

PB01 Conversion to forest from other land uses, or afforestation (excluding drainage)

Update for 2025. Although national policy more or less precludes new forestry on formerly unafforested peat, restocking on peat (mainly peat formed by blanket bog ecosystems) is estimated to affect 7413 ha of peat in the future in Wales. The majority of this could now be restored to blanket bog given recent advances in techniques. Retention of conifer plantations on peat is the second element of this pressures. In both cases, ongoing afforestation will delay restoration further into periods of time increasingly affected by lower summer rainfall resulting from climate change, thus potentially complicating restoration.

PH08 Other human intrusions and disturbance

The issue of human access and use leading to erosion and disturbance is cited as a current issue for 24 units across 6 SSSI for the two blanket bog features, with the Eryri SAC registering the highest number of units. The closely related pressure of 'inappropriate vehicle use' currently affects 23 units on 9 SSSI. Taken together, these two issues currently affect 43 units on 11 SSSI.

PG09 Management of fishing stocks and game

Included here are 'excessive cutting' (recognised as a current issue on 4 units on 2 SSSI) for game birds and avifauna conservation, and other issues relating to 'game management' which affect 6 units on 2 SSSI.

PD01 Wind, wave and tidal power (including infrastructure)

Wind-power generation poses two immediate pressures; loss of habitat beneath the footprint of infrastructure (including turbine footings, crane pads, tracks and quarries), and impacts on areas of bog adjacent to infrastructure posed by hydrological and fragmentation issues. A third potential pressure concerns the potential for wind-farm establishment to alter existing grazing etc management practices as a result of better access resulting from extensive networks of tracks. , though Habitat Management Plans can also represent positive impacts. This pressure affects multiple sites in Wales supporting H7130

PA09 Burning for agriculture

This remains as an issue for 14 units on 4 SSSI and is a medium or high priority issue in the PIPs for 4 SACs.

PJ03 - Changes in precipitation regimes due to climate change

PJ01 - Temperature changes and extremes due to climate change There is little specific evidence indicating impacts due to these pressures at the present time; any such impacts would, in any case, be difficult to disentangle from current drainage mediated impacts.

Threats:

PA08 Extensive grazing or undergrazing by livestock & PI03 problematic native species.

Significant effort has been made to achieve satisfactory grazing levels, with 'grazing type and/or timing' resolved or withdrawn on 86 units on 19 SSSI, with the equivalent figures for 'insufficient grazing' being 17 units on 10 SSSI. Nevertheless, this issue is likely to remain significant for the foreseeable future, with uncertainty over the viability of

upland grazing units in the post-Brexit era a further concern. 'Insufficient cutting/mowing' has been resolved or withdrawn on 10 units across 5 sites.

PA22 Drainage for use as agricultural land.

The remaining open drains will remain as a threat to large areas of blanket bog during the next two reporting periods as complete restoration of all blanket bog drains in Wales is unlikely to be completed within the next reporting round (drainage is only classified as resolved or withdrawn for 24 units on 4 SSSI, compared against its status as a current threat on 81 issues across 9 SSSI). Even where grips are blocked, peat shrinkage effects caused by drainage will persist for many decades, causing some ongoing drainage.

PA07 Intensive grazing or overgrazing by livestock

Some progress has been made in resolving this as an issue based on the fact that it has been resolved or withdrawn as an issue for 55 units across 13 SSSI. Nevertheless, overgrazing has been and remains a severe issue for some parts of the resource, with the Carneddau Mountain range probably the most acute example in a Welsh context. Peat erosion, which is associated with past over-grazing as well as a range of other pressures, is a generally localised but sometimes very significant issue and will remain so during the next two reporting periods at least.

PK04: Atmospheric N-deposition and PK03 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 H7130 is a feature) which falls in areas where deposition is above the relevant critical load will not fall at all from the 2013-2015 estimate (JNCC, 2018).

PB03 Introduction and spread of new species for forestry purposes (including GMOs)The issue of terrestrial non-native species is reported as resolved on 9 units across 6 SSSI, but the spread of conifers onto blanket bog from adjacent conifers plantations will continue into the forseeable future. This requires a new approach to determining plantation boundaries in relation to semi-natural peatland habitats – aimed at improving peatland ecosystem resilience and delivering sustainable management.

PB01 Conversion to forest from other land uses, or afforestation (excluding drainage) & PB23 Physical alteration of water bodies for forestry (including dams).

This pressure will continue as a future threat. This is because there is at present no financial mechanism for making peatland restoration after afforestation an attractive prospect relative to replanting. Whilst NRW has a programme of peatland restoration for afforested sites on land under its own management, limitations in funding restrict this restoration to a small number of priority sites (Vanguelova et al., 2012).

PD01: Wind, wave and tidal power (including infrastructure)This remains a threat both to sites where windfarms have been developed and also to sites at the proposal/planning stage.

PA09 Burning for agriculture

Although resolved or withdrawn as an issue for 12 units on 9 SSSI, this issue remains as a threat and may increase with reduced grazing due to enhanced fuel load, though this should be offset to a degree by hydrological restoration

	actions. Burning of blanket bog vegetation is now only permitted in accordance with the Heather & Grass burning regulations (Welsh Government, 2008). PH08 Other human intrusions and disturbance This issue is likely to be ongoing into at least the next reporting round based on the relatively modest number of units where these issues have been resolved, namely 7 units and 4 SSSI for 'Access/Use - erosion/disturbance/ damage' and 1 unit on a single SAC for 'inappropriate vehicle use'. PJ03 - Changes in precipitation regimes due to climate change Modelling predicts that water table draw-down in peat bogs during summer will become more marked (Lindsay et al., 2014). Increased temperatures may lead to increased decomposition of peat-forming material in active, healthy bogs, although this is still an issue of debate. However, the resilience of ombrogenous bogs to climate change has been convincingly linked to the living surface (acrotelm) of 'active' bogs; thus restoration to sustain or restore this critical feature is the best approach for mitigating the effects of climate change.
8.5: List of main conservation measures	Descriptions of measures are based very largely on that developed for the 2018 reporting round. In 2025 the key priorities can be summarised as follows: • Address graminoid and ericoid domination by restoring hydrological regimes, grazing stock modification, preventing burning and tackling atmospheric N deposition. • Increase the heterogeneity of blanket bog landscapes, creating pooled landscapes on former erosion and drainage features.

• Stop all forestry re-stocking on blanket peat and move to the phased removal of existing conifer crops on blanket peat.

• Prevent all development on blanket peat – the renewable energy sector is the key current concern.

• Take fall account of conserving earth science features in peat restoration projects.

• Restore eroded peat where this has no potential for spontaneous recovery.

• Implement measures to reduce the spread of non-native conifer seedlings on blanket peat.

MA05: Adapt mowing, grazing and other equivalent agricultural activities (e.g. burning)There is significant scope for the development of a major initiative (of the scale which might be eligible for LIFE funding for example) to achieve large-scale restoration of Molinia dominated blanket bog in south and central Wales. Initial trials (Daggett, 2016; Perry, 2016) indicate that cutting and grazing Molinia do achieve positive results, and that cut arisings can be used to promote vegetation recovery in eroded areas. This is the one of the main priorities for blanket bog restoration in Wales. The measure MS04 is also relevant here and is effectively the requirement for MA05.

Extensive effort has been devoted to reducing stocking levels on Welsh blanket bogs, with 24,489 ha currently included in the Glastir Advanced additional management payment for reducing stocking levels (Milner, 2018), and 10,105 ha included in the 'Grazing management of open country' prescription (41a) – see Milner 2018. However, there is at the moment significant debate about whether near-natural blanket bog 'requires' any grazing at all (see Turner, in prep.) and this needs to be resolved in the near

future. In the meantime, low level grazing is widely used as a means of maintaining structure and preventing scrub and conifer seedling encroachment.

MK03: Restoration of habitats impacted by multi-purpose hydrological changes & MK02 Reduce impact of multi-purpose hydrological changes

There is an obvious and urgent requirement to block the remaining sections of open active drains (grips) on Welsh blanket bogs: these are estimated to extend over a sum distance of at least 760 km (see A31 under section 7 above): this is identified as action BB1 in the proposed national action plan for Welsh peatlands (Jones, 2018). Currently some 278 ha of blanket bog is registered under the additional payment for rewetting option (option 403) of Glastir Advanced (Milner, 2018). A review of the inclusion of peatlands habitats in Glastir in 2015 (Jones, 2015) found that the total length of grips blocked under Glastir Advanced in deep peat areas was c.18.75km, suggesting that only c.4% of grips on peatland entered into Glastir Advanced had been blocked and only 1.5% of all grips on deep peat in Wales had been blocked using the Glastir Advanced area. Thus it seems that the potential of Glastir Advanced as a mechanism for achieving grip blocking has been under-utilised.

MJ02 Implement climate change adaptation measures

Welsh blanket peatlands represent the largest terrestrial carbon resource in Wales and measures to restore mires to active status represents the best means of reducing carbon loss or even promoting net carbon uptake to these ecosystems.

MA06 Stop mowing, grazing and other equivalent agricultural activities e.g. burning (incl. restore or improve habitats)This measure is likely to be required in eroded areas, coupled with measures to restore water levels and

stabilise and revegetate peat surfaces. This measure could be applied more widely on sites with fully restored hydrological regimes, though atmospheric deposition may impose a requirement for longer-term light grazing.

MM04: Other measures related to natural processes

This measure is included to address peat erosion which in may have arisen initially through natural processes before being exacerbated by over-grazing and or burning, together with atmospheric pollution. A national programme is required to restore peatland and where possible peat-forming vegetation to severely eroded areas.

MC09 Manage/reduce/eliminate air pollution from resource exploitation and energy production, & MA11 Reduce/ eliminate air pollution from agricultural activities.

National regulations are in place but have been insufficient to prevent continued high levels of N deposition nationally (MC09) and locally increasing ammonia pollution from expansion of poultry units (MA11).

Air quality limit values set out in the Air Quality Strategy (AQS) are transposed into national legislation by the Air Quality Standards Regulations 2010. Nitrogen deposition continues to impact semi-natural habitats in Wales. These regulations are not habitat-specific, however with introduction of The Environment (Air Quality and Soundscapes) (Wales) Act 2024 in Wales, brings in new national targets for air quality pollutants, with the potential of directly influencing habitat protection.

This key legislative advancement requires mandatory targets for fine particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$) to be established by February 2027, including new powers for Welsh Ministers to set pollutant-specific targets in future years (e.g., ammonia, nitrogen dioxide) linked to biodiversity outcomes, potentially

enabling future habitat-sensitive thresholds.

Welsh Government have also introduced The Agriculture (Wales) Act in 2023. It aims to establish a framework of Sustainable Land Management (SLM) objectives to underpin agricultural support, including the Sustainable Farming Scheme (SFS). The Act provides Welsh Ministers with the power to provide support (financial or otherwise) for or in connection with 15 purposes, including 'Improving air quality'. Welsh Government published a consultation on the SFS which closed in March 2024. Welsh Ministers will not be making final scheme design decisions until further stakeholder work is undertaken.

MB05 Adapt/change forest management and exploitation practices & MB14 Manage drainage and water abstraction for forestry (inc. restoration of drained or hydrologically altered habitats)

Significant scope exists for further prioritising conifer removal and peatland restoration at locations where this can make a tangible contribution to habitat expansion and increasing the resilience of peat bodies: this should not be limited to the current 'top ten' suite of sites (Vangeulova et al., 2012). A new mechanism is new urgently needed to offer realistic incentives to support restoration by the private sector. A comprehensive approach is needed to ensure that full hydrological restoration and appropriate grazing management are implemented following tree removal.

MI03 Management, control or eradication of other invasive alien species

This measure is required to control the spread of conifer and rhododendron seedlings, in particular where areas of lightly or un-grazed bog adjoin or are relatively close to conifer plantations.

MC03: Adapt/manage renewable energy installation,

	facilities and operation (excl. hydropower and abstraction activities)All existing windfarm sites on deep peat should be reviewed to ensure compliance with agreed Habitat Management Plans and also to determine if HMPs adequately mitigate windfarm infrastructure impacts and actually offer net gain in terms of biodiversity and greenhouse gas emissions reductions. Any new windfarms should adopt stringent best-practice in these regards. MA01 Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land Ongoing losses of habitat at the upland fringe have been noted within the last decade, and continued vigilance will be needed, with application of the EIA regulations where required (Welsh Government, 2017).
9.1:Future trends and prospects of parameters	Range: Some changes in range are expected due to climate change and the general scarcity of protected areas towards the geographical limits of this habitat. Area: This assessment is based on predicted gains in peatland habitat area resulting from the removal of conifers from blanket peat, and includes work undertaken as part of NRWs National Peatland Action Programme. However, this has to be balanced against unquantified losses due to renewable energy development and tree planting. Structure & function: Commentary not updated since 2018. Substantial areas of H7130 are included within SAC (20,358 ha, Milner [2018]), with 32,461 included within SSSI and 3979 ha included in NRW Management Agreements according to Milner (2018). This last figure represents a significant drop on the 2012 estimate of 7192 ha (Stevens), though this may partly

relate to the GIS overlay methodology employed in the current reporting round. Several large-scale habitat restoration projects have been completed between the previous and current reporting round, including RSPB's Active Blanket Bogs in Wales project (which among other outcomes resulted in the blocking of 459.5 km of grips over 7061 ha of bog, RSPB, 2012) and Welsh Government funded projects led by Snowdonia National Park. Substantial areas of this habitat are included in Glastir Advanced Agreements, with 24,489 ha included in the '411 Reduce Stocking' additional management payment (Milner, 2018) and 10,105 ha in the '41a Grazing Management of Open Country' option (there is likely to be significant overlap between these figures). However, some Glastir Advanced options are known to be being under-utilised – notably grip blocking (see Threats above). Although substantial areas of this habitat are included in protected sites and also covered by agri-environment scheme elements which would be expecting to yield improvements in condition, monitoring results from the Glastir Monitoring & Evaluation Scheme (GMEP; Emmett et al., 2017, Table GMEP-BD-OUTCOME-C-3 p. 45) indicate no change in the condition of blanket bog between land within the Glastir scheme compared to all Wales as determined using CSM (see also https://gmep.wales/biodiversity/, accessed on-line 1/5/18). The same study indicates a statistically significant improvement in the condition of blanket bog between the 2013-16 data collection round and both 2007 and 1990 as determined using CSM (see section 6.4 above). However, despite this apparent improvement in the habitat's condition since the 1990s, significant threats remain and in many areas are unlikely to be fully addressed by either planned or already instigated conservation measures; notably all areas of the habitat are currently subject to deposition rates of reactive nitrogen which are in excess of the Critical Load. Given the extent of ongoing N critical load exceedance the trend in the habitats structure and function is judged likely to be negative.

	The Future prospects for Structure and functions takes into account that at least 25% of the habitat area is expected to be in unfavourable (not good) condition in c.2035 due to nutrient N critical load exceedance, unless additional measures are taken to reduce N deposition impacts.
10.1: Range	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 approximately equal to the Favourable Reference Range.
10.2: Area	Conclusion on Area reached because:(i) the short-term trend direction in Area is decreasing by 1% per year or less; and (ii) the current Area is more than 10% below the Favourable Reference Area.
10.3: Specific structure and functions	Conclusion on Structure and function reached because: i) habitat condition data indicates that more than 25% of the habitat is in unfavourable (not good) condition; ii) short-term trend in area of habitat in good condition is unknown; and iii) expert opinion determines that there are significant issues for this habitat, with extensive areas in poor or declining condition due to adverse or lack of management.
10.4: Future prospects	Conclusion on Future prospects reached because: (i) the Future prospects for Range are poor; (ii) the Future prospects for Area covered by habitat are poor; and (iii) the Future prospects for Structure and function are bad.
10.5: Overall assessment of Conservation Status	Overall assessment of Conservation Status is Unfavourable-bad because three of the conclusions are Unfavourable-bad.
11.1: Surface area of the habitat type inside the pSCIs, SCIs and SACs network	This is a new figure (Milner, 2018) based on digital overlap of SAC boundaries on the 2012 inventory data of Stevens & Jones (2012).
11.4: Short-term trend of habitat area within the network; Direction	Section not updated since 2018 monitoring round. SAC monitoring data (NRW, 2018a) show no clear trend of an improvement in condition based on comparison of the 1st and 2nd and (where available) 2nd and 3rd reporting rounds. The judgement of Unfavourable – recovering for

	this feature on Elenydd in September 02 was followed by a judgement of Unfavourable – unclassified at the second report round, whilst the initially favourable status of the feature on Rhinog in the first reporting round had changed to Unfavourable in the 2nd round. Set against this are the monitoring results from the Glastir Monitoring & Evaluation Scheme (GMEP; Emmett et al., 2017, Table GMEP-BD-OUTCOME-C-3 p. 45) which indicate a statistically significant improvement in the condition of blanket bog between the 2013-16 data collection round and both 2007 and 1990 as determined using CSM (see also https://gmep.wales/biodiversity/, accessed on-line 1/5/18). However, the area of habitat in good condition sensu CSM is unknown. Preliminary data from a survey of management compartments on the Migneint SAC (Reed, 2018) suggest that of a survey area of 682 ha across 3 hefts on the Ysbyty (NT owned) section of the SAC, some 661 ha is in favourable condition in terms of vegetation composition, though all of it would be regarded as Unfavourable – recovering as a result of ongoing recovery of hydrological regimes following grip blocking. Overall, there is no satisfactory evidence base from which to assess a clear trend in condition across the SAC resource in Wales at the present time. Note this work is part of a larger NT led study of bog condition on the Migneint Ysbyty estate, the results of which were not made available for this round of Article 17 reporting.
5.13: Favourable Reference Area (FRA)	The UK-level FRV for surface area was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. Following expert review, a Wales-level FRV was derived based on habitat extent and trend

	evidence specific to Wales, rather than adopting the UK-level value. The revised FRV has been set as between 11% and 25% smaller than the FRA as losses to forestry and agricultural intensification mean that a less favourable operator has been selected for Wales.
4.10: Favourable Reference Range (FRR)	The UK-level FRV for range was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. This FRV was reviewed by Welsh experts and considered appropriate for use in Wales based on current distribution and trends.