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

2019-2024

Conservation status assessment for the habitat:

H6150 - Siliceous alpine and boreal grasslands

Wales

Cyfoeth Naturiol Cymru
Natural Resources Wales

JNCC

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

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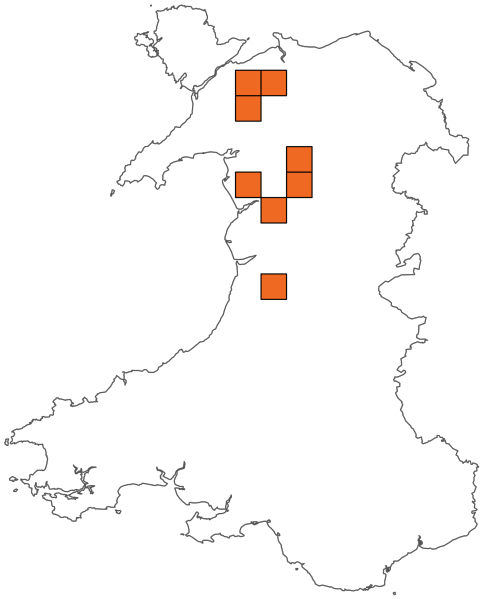
Important note - Please read

- 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: Siliceous alpine and boreal grasslands

Distribution Map



Range Map

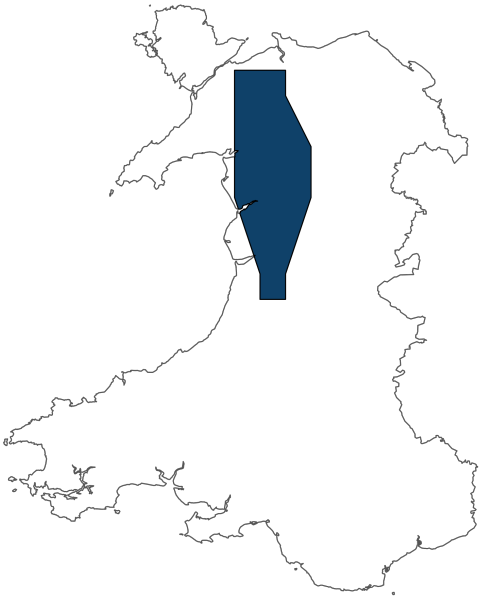


Figure 1: Wales distribution and range map for H6150 - Siliceous alpine and boreal grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. 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 H6150 - Siliceous alpine and boreal grasslands. 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)	**Favourable (FV)**
Area covered by habitat (see section 5)	**Unfavourable-inadequate (U1)**
Structure and functions (see section 6)	**Unfavourable-bad (U2)**
Future prospects (see section 9)	**Unfavourable-bad (U2)**

List of Sections

National Level

1. General information

1.1 Country	Wales
1.2 Habitat code	H6150 - Siliceous alpine and boreal grasslands

2. Maps

2.1 Year or period	1989-2012
2.2 Distribution map	Yes
2.3 Distribution map; Method used	Complete survey or a statistically robust estimate

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)	1,992.42
4.2 Short-term trend; Period	2013-2024
4.3 Short-term trend; Direction	Stable
4.4 Short-term trend; Magnitude	

a) Estimated minimum

b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
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	
c) Rate of decrease	
4.9 Long-term trend; Method used	

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	No
b) Genuine change	
c) Improved knowledge or more accurate data	

d) Different method	
e) No information	
f) Other reason	
g) Main reason	

4.12 Additional information

No additional information

5. Area covered by habitat

5.1 Year or period	1989-2012
5.2 Surface area (km²)	
a) Minimum	
b) Maximum	
c) Best single value	0.84
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	2003-2024
5.6 Short-term trend; Direction	Stable
5.7 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
5.8 Short-term trend; Method used	Based mainly on extrapolation from a limited amount of data
5.9 Long-term trend; Period	1951-2024

5.10 Long-term trend; Direction	Stable
5.11 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
5.12 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of data
5.13 Favourable Reference Area (FRA)	
a) Area (km²)	
b) Pre-defined increment	Current area is between 2% and 10% smaller than the FRA
c) Unknown	No
d) Method used	Reference-based approach
e) Quality of information	moderate

5.14 Change and reason for change in surface area of range

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

5.15 Additional information

No additional information

6. Structure and functions

6.1 Condition of habitat (km²)	
Area in good condition	
ai) Minimum	0
aii) Maximum	0
Area not in good condition	
bi) Minimum	0.775
bii) Maximum	0.775
Area where condition is unknown	
ci) Minimum	0.062
cii) Maximum	0.062
6.2 Condition of habitat; Method used	Complete survey or a statistically robust estimate
6.3 Short-term trend of habitat area in good condition; Period	2007-2024
6.4 Short-term trend of habitat area in good condition; Direction	Stable
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

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
PA07: Intensive grazing or overgrazing by livestock	Ongoing and likely to be in the future	High (H)
PF05: Sports, tourism and leisure activities	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	Only inside 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
MA03: Maintain existing extensive agricultural practices and agricultural landscape features	High (H)
MA05: Adapt mowing, grazing and other equivalent agricultural activities (e.g. burning)	High (H)
MF03: Reduce impact of outdoor sports, leisure and recreational activities (incl. restoration of habitats)	Medium (M)
MK01: Reduce impact of mixed source pollution	High (H)

8.6 Additional information

Only part of the measures identified have been taken.

9. Future prospects

9.1a Future trends of parameters

ai) Range	Overall stable
bi) Area	Overall stable
ci) Structure and functions	Negative - slight/moderate deterioration

9.1b Future prospects of parameters

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

9.2 Additional information

No additional information

10. Conclusions

10.1 Range	Favourable (FV)
10.2 Area	Unfavourable-inadequate (U1)
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 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 (km^2)

a) Minimum	
b) Maximum	
c) Best single value	0.82
11.2 Type of estimate	Best estimate
11.3 Habitat area inside the network; Method used	Complete survey or a statistically robust estimate
11.4 Short-term trend of habitat area within the network; Direction	Stable
11.5 Short-term trend of habitat area within the network; Method used	Complete survey or a statistically robust estimate
11.6 Short-term trend of habitat area in good condition within the network; Direction	Stable
11.7 Short-term trend of habitat area in good condition within the network; Method used	Complete survey or a statistically robust estimate

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

Averis, B. 2002. Vegetation survey of parts of the Migneint-Ddualllt area, North Wales 2001. CCW Science Report 533.

Averis, A.B.G. and Averis, A.M., 2000. Vegetation survey of Cadair Idris National Nature Reserve, Gwynedd Wales: August - September 1999.

Averis, B. & Averis, A., 2002. Vegetation survey of the western part of the Carneddau, Eryri Site of Special Scientific Interest and candidate Special Area of Conservation NW Wales 2002. CCW Science Report 577.

Averis A. & Averis, B, 2004. Vegetation survey of Rhinog Site of Special Scientific Interest, 2003. CCW Science Report 654.

Gray, D.A., 2002. NVC Survey of proposed extensions to Eryri cSAC (Glydeirau and Y Wyddfa). CCW Contract Science Report 517.

Prosser M.V. & Wallace H.L. 1996. Cwm Idwal NNR : NVC Survey 1995.

Turner, A. CCW, 1996-1998 Glyderiau (GIS data, no report).

Burn, A.M., 1989. Upland Vegetation Survey, Site Report No.23: Eryri (Glydeiriau, Carneddau, Y Wyddfa & Cwm Dwythch).

Chater, A.O. 2010. Flora of Cardiganshire.

Harrison, T. 2010. Eryri SAC. 6150: Siliceous alpine and boreal grasslands. SAC Monitoring report.

Harrison, T. 2020. Eryri SAC Monitoring Summary report: 6150 Siliceous alpine and boreal grassland. Monitoring Round 2013 to 2018.

Leishman, R.G. 2007. The distribution of Salix herbacea on the Glyderau and evaluation of habitat quality. CCW Contract Science Report 828. Bangor: Countryside Council for Wales.

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Rodwell, J.S. (ed.). 1992. British plant communities. Volume 3. Grasslands and montane communities. Cambridge University Press, Cambridge.

Stevens, C.J., Thompson, K., Grimes, J.P., Long, C.J. & Gowing, D.J.G. 2010. Contribution of acidification and eutrophication to declines in species richness of calcifuge grasslands along a gradient of atmospheric nitrogen deposition. Functional Ecology 24(2): 478-484.

Stevens, J., Sherry J. & A Turner. 2012. H6150 Siliceous Alpine and Boreal Grassland Inventory.

Sutton, M. 2012. Survey of Summit Vegetation on Pumlumon SSSI. CCW Report.

Turner, A. 2012. Changes in the composition of low-alpine grassland and heath on the Carneddau Mountain Group, North Wales over the period 1951-2011. CCW Staff Science Report.

Turner, A.J. and Harrison, T. 2022. Monitoring of montane grassland and heath on the Carneddau, Eryri SSSI in 2021. NRW Evidence Report No: 627, vii + 66pp, Natural Resources Wales, Bangor.

UK Government. 2010. The Air Quality Standards Regulations 2010. Available from: https://www.legislation.gov.uk/uksi/2010/1001/contents

Welsh Government. 2023. The Agriculture (Wales) Act 2023. Available from: https://www.gov.wales/agriculture-wales-act-2023

Welsh Government. 2024a. The Clean Air Plan for Wales 2024. Available from: https://www.gov.wales/clean-air-plan-wales-healthy-air-healthy-wales

Welsh Government. 2024b. The Environment (Air Quality and Soundscapes) (Wales) Act 2024. Available from: https://www.legislation.gov.uk/asc/2024/2/contents

Main pressures

7.2 Sources of information

No sources of information

14. Explanatory Notes

Field label	Note
2.3: Distribution map; Method used	H6150 has been mapped based on the occurrence of the following National Vegetation Classification (NVC) communities (Rodwell (ed), 1992); U10 Carex bigelowii - Racomitrium lanuginosum moss-heath, U7 Nardus stricta-Carex bigelowii grass-heath, and U8 Carex bigelowii-Polytrichm alpinum heath; and the Phase 1 Birks and Ratcliffe community E1 Racomitrium lanuginosum – Carex bigelowii heath. Additional records have been included for key species as described below. Distribution of H6150 has been derived from a number of data sources; mapped polygon information has been collated from a series of Upland NVC Survey data and reports (see sources of information) undertaken on designated sites between 1996 to 2004 and from the Wales Field Unit Upland Vegetation Survey for Eryri (Burn, 1989); records for Carex bigelowii and Salix herbacea from the Flora of Cardiganshire were used to identify H6150 on Pumlumon (Chater, 2010) and from one personal observation for Aran Fawddy (Turner, 2012). A GIS-based inventory for the habitat was produced using both of these data sources (Stevens, Sherry & Turner, 2012). Most of the field data were collected before 2007. The continued presence of the habitat has been confirmed by SAC monitoring work in Eryri which includes the bulk of the habitat: on the Carneddau part of Eryri SAC in 2010 (Harrison, 2010) and 2021 (Turner & Harrison, 2022), and the Glyderau part of the SAC in 2017 (Harrison, 2020). In addition, in Eryri there has been a study of long-term change of low-alpine grassland and heath in the Carneddau Mountains in 2011 (Turner, 2012) and, in Pumlumon a survey of alpine and boreal vegetation (Sutton, 2012).

	This is considered a partial dataset and more work needs to map areas of habitat particularly in locations where species data have been used to identify its presence.
5.3: Type of estimate	All extent data were collected pre-2007. The continued presence of the habitat was confirmed by SAC monitoring work at locations in the Eryri SAC, which supports the majority of the habitat in Wales (Harrison, 2010; Harrison, 2020; Turner & Harrison, 2022). In Eryri there was a study of long-term change of low-alpine grassland and heath on the Carneddau Mountains in 2011 (Turner, 2012) and in Pumlumon a survey of alpine and boreal vegetation (Sutton, 2012). Area figures were calculated using polygon data from the Upland NVC surveys and Upland Field Unit Surveys (see sources of information); this totals 80.13 hectares. The size of polygons varies from 0.001 ha to 13.39 ha. There are an additional nine locations where there is no polygon data. Based on the mean polygon size the total extent is estimated at 83.64 ha. Given the age of the data, 'best estimate' is given.
5.4: Surface area; Method used	Good level of survey, although data rather old. See 2.3 for details.
5.8: Short-term trend; Method used	This is an estimate based on partial data with some extrapolation and is based largely on assessment made in 2012. The assessment of changes to the habitat on the Carneddau (Turner 2012) suggest that the overall extent remained stable between 2003 and 2012. A similar pattern of no change in extent was believed to have occurred elsewhere across the range of the habitat. Since 2012, repeat monitoring of the habitat has been undertaken (Harrison 2010; Harrison, 2020; Turner & Harrison, 2022), showing no change in extent. The

	assessment of 'stable' in 5.6 is therefore based on low confidence.
5.12: Long-term trend; Method used	The assessment of changes to the habitat on the Carneddau (Turner, 2012) suggests that the overall extent has remained stable since the 1950s. A similar pattern of no change in extent is believed to have occurred elsewhere across the range of the habitat. Since 2012, repeat monitoring of the habitat has been undertaken (Harrison 2010; Harrison, 2020; Turner & Harrison, 2022), showing no change in extent.
6.2: Condition of habitat; Method used	Assessment of structure and function within SACs is based mainly on the results of common standards monitoring visits undertaken in 2010 and 2017 (Harrison 2010; Harrison, 2020). Monitoring by Leishman (2007) and the Carneddau vegetation change work (Turner, 2012) are also utilised to inform condition and trends. Harrison (2010) reported that whilst at most locations positive indicator species were present, the cover of negative indicators, notably grasses and common sub-alpine forbs, did not meet the target of <10%. There is therefore a risk of the negative indicator species out-competing the distinctive alpine and boreal species as the former tend to be more resistant to grazing pressures. On the Glyderau, all other attributes passed, but on the Carneddau, 46% of points also failed for showing signs of excessive grazing. Overall, 33.3% of samples were considered to pass in Glyderau and12.4% in Carneddau (at least 90% pass is required for favourable condition to be achieved). Turner (2012) showed a relatively complex pattern of change since the 1950's with a significant decline in habitat quality followed by a partial recovery: - Low cover of Racomitrium; this significantly decreased in siliceous alpine and boreal grassland at the majority of

	Carneddau locations over the periods 1951/53 to 1993 and 1951/53 to 2003 and showed only slight recovery over 1951/53 to 2011; - Change in macrolichens is complex, with significant decreases between 1951/53 to 1993 at 3 locations but an increase at 2 of these locations over the period 2003 to 2011. However, where there was an increase in macrolichens there was a decline in the frequency and abundance of characteristic low-alpine Cetraria species and Cladonia subgenus Cladina. Cetraria islandica, for example, disappeared almost completely at all sites; - Initial increase in bare ground and rock and a subsequent decline; - No consistent changes in the cover of graminoids and other arctic-alpine species e.g. Salix herbacea, Diphasiastrum alpinum and Carex bigelowii. Harrison (2020) monitored just the Glyderau section of Eryri SAC in 2017. This was found to still be in unfavourable condition, with increases in negative indicator species since 2007 (Tom Harrison pers. com., 2018). Over-grazing was still considered the main cause of poor condition. Monitoring of the Carneddau section in 2021 (Turner & Harrison in 2022) gave an unfavourable condition conclusion for H6150, but noted apparent recovery in condition since 2010, thought to be due largely to decrease in grazing levels. Eryri SAC has 93% of the habitat extent in Wales.
6.3: Short-term trend of habitat area in good condition; Period	These are the years between the most recent two to three monitoring visits covering the Carneddau and Glyderau parts of the SAC.

6.5: Short-term trend of habitat area in good condition; Method used	Harrison (2010) concluded that the condition of the habitat was 'unlikely to have declined" between 2007 and 2010. Initial analysis of the monitoring of the Glyderau H6150 in 2017 (Harrison, 2020) suggested an increase in negative indicators but also a general increase in positive indicators. Monitoring of the Carneddau H6150 in 2021 noted some apparent recovery but still recorded unfavourable condition (Turner & Harrison, 2022). The Eryri SAC supports 93% of the total area of the habitat in Wales.
7.1: Characterisation of pressures	Data held in NRW's Special Sites Actions Database (NRW, 2017), which provided information on 'issues' affecting habitats and species within the protected sites series in Wales, were used to provide a basis for quantifying pressures relating to the habitat, following procedures outlined in NRW, 2018. This was supplemented by some additional data from NRW's current sites database SAFLE (NRW, 2024). Information in the SAC reports (Harrison 2010; Harrison, 2020; Turner & Harrison, 2022), Leishman (2007), and the study of the Carneddau (Turner, 2012) was also utilised. These sources identify two principal pressures: overgrazing (PA07) and recreation (particularly off-roading) (PF05). The first of these is considered to have a high impact, being listed as an issue on 71% of SSSI units with the habitat, and the second a moderate impact (an issue on 8% of units) from analysing the data from SAFLE. The 2010, 2017 and 2022 SAC Monitoring reports (Harrison 2010; Harrison, 2020; Turner & Harrison, 2022), also identified grazing as a major continuing issue on the alpine and boreal vegetation. A critical load level of 5 kg ha/year of atmospheric nitrogen has been formally allocated to this habitat. Air pollution (N deposition) (PK04) is assessed separately using the agreed approach and updated deposition data. Using a data overlay method in ARC GIS (2024), 100% of the habitat by area (polygon data) was recorded at or above the lower Critical Load limit and the habitat is given a High ranking.

	The remaining pressures are given Low risk ranking. They include burning (PA09 and PH04), which is far more likely to affect heathland or scrub at lower altitudes but could, in very dry conditions, spread to examples of H6150 habitat containing prominent woody plants. The impacts of climate change (PJ01 & PJ03) on the habitat are unclear, but increased temperature and droughts could eventually impact a range of montane plant communities.
8.5: List of main conservation measures	Using data from SAFLE (NRW, 2024), only 26% of relevant actions on SSSI management units with H6150 are completed or underway. Therefore an assessment of 'measures identified, but only part taken' is given. A total of 99.5% of the habitat falls within statutory sites. 98.6% of H6210 total area occurs on SACs. On sites where the habitat is a SAC feature, Thematic Action Plans have been produced; these provide priorities for each theme. SAFLE lists 24 management units with H6150, 14 of which have 'actions' expected to have a positive impact on the habitat in the next 12 years (Actions listed as Completed, Underway, Planned or Agreed in principle). The principal Action recorded is MA05 (on 17 units), mainly aimed at reducing grazing management. It should be noted, however, that grazing prescriptions may not be specifically aimed at the habitat, as it often comprises only small proportions of grazing units, so may still be at too high a level for the habitat. PF05 is an action on 2 units, aimed at combating/ preventing recreational damage, and PA04, aimed at tackling burning (on 1 unit). SSSI management agreements have helped to maintain extensive agricultural practices (MA03). An estimated 30% by area of the habitat in Wales was covered by a Glastir grassland option aimed at reducing stocking in 2018, but

	more recently (2020-2023), none of the habitat has been covered by Glastir grassland options. MK01: There are various air quality strategies and initiatives in place to protect and enhance biodiversity. 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.
9.1:Future trends and prospects of parameters	Range: The best current evidence and the presence of most known examples of the habitat on SACs suggests range will remain stable.

	Area: The evidence from SAC monitoring suggests the habitat on Eryri SAC has been stable in area over at least the past four monitoring rounds (see 5.3). This site comprises 93% of the habitat in Wales. There is limited knowledge of the other examples of the habitat however, and further information on these is highly desirable. Structure & function: The habitat remains in poor condition on Eryri SAC which supports the vast bulk of the H6150 in Wales, to a large extent due to over-grazing (see 6.2). Some signs of recovery were noted during the most recent monitoring on the Carneddau (Turner & Harrison, 2022), but it is too early to know whether this will be sustained. Turner & Harrison (2022) noted that grazing levels remain too high. Nitrogen deposition levels are another major issue for the habitat. From a GIS overlay analysis in 2024, 100% of the habitat area in Wales currently exceeds the critical load (CL) for atmospheric nitrogen deposition. Atmospheric nitrogen deposition is known to cause both eutrophication and acidification in acid grasslands, leading to decline in species diversity (e.g. Stevens et al., 2010). 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 stable; 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 stable; (ii) the current Area is not

	more than 10% below the Favourable Reference Area and iii) there has been no significant change in distribution pattern within range.
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 stable; and iii) expert opinion determines that there are significant issues for this habitat.
10.4: Future prospects	Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (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 two of the conclusions are Unfavourable-bad.
11.4: Short-term trend of habitat area within the network; Direction	The habitat on Eryri SAC was considered to be in unfavourable condition during the most recent monitoring in 2010, 2017 and 2021 (Harrison, 2010; Harrison, 2020; Turner & Harrison 2022), although a portion of the plots recorded were in good condition (see 6.2). Monitoring of Eryri SAC concluded that the condition of the habitat was 'unlikely to have declined" between 2007 and 2010 (Harrison, 2010). Analysis of the monitoring of the habitat on just the Glyderau section in 2017 suggested an increase in negative indicators but also a general increase in positive indicators (Tom Harrison pers. com., 2018). Monitoring in 2021 in the Carneddau detected some recovery in condition (Turner & Harrison, 2022). See 6.5 for details. The Eryri SAC supports an estimated 93% of the total area of the habitat on SACs in Wales. No information is available for the remaining 7%.
11.5: Short-term trend of habitat area within	Monitoring of the whole Eryri SAC last took place in 2010 (Harrison, 2010); monitoring of the Glyderau section took place in 2017 (Harrison, 2020), and the Carneddau in 2021

the network; Method used	(Turner & Harrison, 2022). The SACs holds an estimated 93% of the habitat extent in Wales.
11.7: Short-term trend of habitat area in good condition within the network; Method used	Although the most recent monitoring did not include the whole SAC, the past three monitoring assessments taken together provide good coverage and a consistent result.
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. This FRV was reviewed by Welsh experts and considered appropriate for use in Wales based on current habitat extent and trends.
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.