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

2019-2024

Conservation status assessment for the habitat:

H4010 - Northern Atlantic wet heaths with *Erica tetralix*

Wales

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JNCC

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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: Northern Atlantic wet heaths with *Erica tetralix*

Distribution Map

Range Map

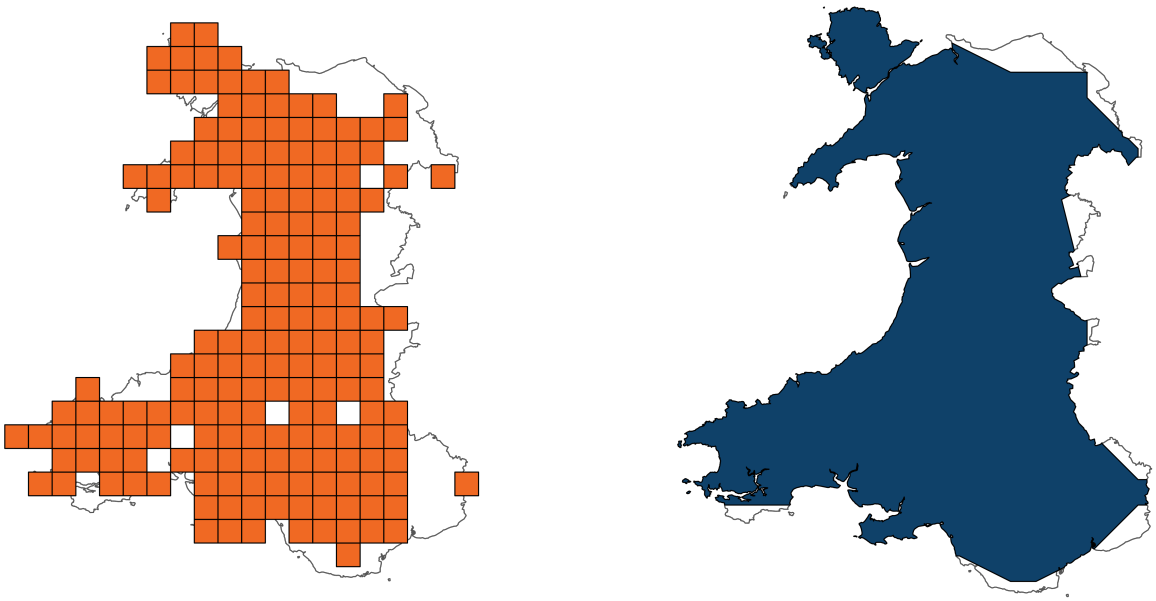

Figure 1: Wales distribution and range map for H4010 - Northern Atlantic wet heaths with *Erica tetralix*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas 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 H4010 - Northern Atlantic wet heaths with *Erica tetralix*. 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)	**Unknown (XX)**
Future prospects (see section 9)	**Unfavourable-bad (U2)**

List of Sections

National Level

1. General information

1.1 Country	Wales
1.2 Habitat code	H4010 - Northern Atlantic wet heaths with *Erica tetralix*

2. Maps

2.1 Year or period	1979-2012
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)	19,523.77
4.2 Short-term trend; Period	2017-2024
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	Based mainly on extrapolation from a limited amount of data
4.6 Long-term trend; Period	
4.7 Long-term trend; Direction	Stable
4.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	
4.9 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of 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	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	1979-2012
5.2 Surface area (km²)	
a) Minimum	
b) Maximum	
c) Best single value	144.14
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	
5.6 Short-term trend; Direction	Unknown
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	Insufficient or no data available

5.9 Long-term trend; Period	1989-2024
5.10 Long-term trend; Direction	Decreasing
5.11 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
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	1
Area not in good condition	
bi) Minimum	31.13
bii) Maximum	31.13
Area where condition is unknown	
ci) Minimum	113.01
cii) Maximum	113.01
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	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

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
PA08: Extensive grazing or undergrazing by livestock	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)
PJ03: Changes in precipitation regimes due to climate change	Ongoing and likely to be in the future	High (H)
PL02: Drainage (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)
PJ10: Change of habitat location, size, and / or quality due to climate change	Ongoing and likely to be in the future	Medium (M)
PF05: Sports, tourism and leisure activities	Ongoing and likely to be in the future	Medium (M)
PA06: Mowing or cutting of grasslands	Ongoing and likely to be in the future	Medium (M)
PA09: Burning for agriculture	Ongoing and likely to be in the future	Medium (M)
PL01: Abstraction from groundwater, surface water or mixed water (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)

PI02: Other invasive alien species (other than species of Union concern)	Only in 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	Maintain the current range, surface area or structure and functions of the habitat type
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)
MA04: Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures	High (H)

MA07: Restoration of Annex I agricultural habitats (incl. re-establish and improve)	High (H)
MI04: Restoration of habitats affected by invasive alien species (incl. of Union concern and others)	High (H)
MI05: Management of problematic native species	Medium (M)
MA11: Reduce/eliminate air pollution from agricultural activities	Medium (M)
MF03: Reduce impact of outdoor sports, leisure and recreational activities (incl. restoration of habitats)	Medium (M)
MA13: Manage agricultural drainage and water abstraction (incl. the restoration of drained or hydrologically altered habitats)	Medium (M)
MJ02: Implement climate change adaptation measures	Medium (M)
ME03: Manage/reduce/eliminate air pollution from transport	Medium (M)

8.6 Additional information

No additional information

9. Future prospects

9.1a Future trends of parameters

ai) Range	Overall stable
bi) Area	Unknown
ci) Structure and functions	Very negative - important deterioration

9.1b Future prospects of parameters

aii) Range	Good
bii) Area	Unknown
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)	Unknown (XX)
10.4 Future prospects	Unfavourable-bad (U2)
10.5 Overall assessment of Conservation Status	Unfavourable-bad (U2)
10.6 Overall trend in Conservation Status	Unknown

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	31.13
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	Uncertain
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

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Main pressures

7.2 Sources of information

No sources of information

14. Explanatory Notes

Field label	Note
2.3: Distribution map; Method used	The distribution (and extent) of H4010 has been calculated using three main data sources plus additional surveys and research reports. A polygon-based GIS inventory was produced in 2012 (Stevens and Sherry, 2012) and reviewed in 2018. There is likely to be additional data which could be added to the map based on a review of NVC data but currently this has not been processed and therefore no changes have been made to the map but any changes are unlikely to change the 10km square distribution. Data source 1 (MAIN DATA SOURCE): 'Phase 1' Habitat Survey of Wales (HSW; Blackstock et al., 2010). This was a comprehensive field-by-field survey of the region; distribution data for this habitat come entirely from the upland component of the survey, conducted between 1979 and 1989. This is a relatively old dataset and has not been updated with more recent changes in habitat extent. Data source 2 (MAIN DATA SOURCE): Lowland Heathland Survey of Wales (LHSW various authors summarised in Sherry 2007). This was a targeted NVC (Rodwell (ed.), 1992) survey focussing on heathlands of high conservation interest in the Welsh lowlands. Survey work was conducted between 1993 and 2002. Data source 3: (MAIN DATA SOURCE): Heathland data collected as part of the Lowland Grassland Survey of Wales (LGSW; Stevens et al., 2010). Survey work was conducted between 1987 and 2004. Data source 4: Various upland NVC Surveys (various authors) undertaken between 1996 and 2023.

	Data source 5: A sample survey of 48 1km squares in the Snowdonia National Park between 2009 and 2011 (Gritten 2012). Data source 6: Heathland records from 2 studies of coal spoil vegetation in south Wales in 2007.
4.3: Short-term trend; Direction	Significant changes to the 10km square distribution and linked range of H4010 in Wales since the last reporting round are unlikely to have occurred. The habitat has been recorded from the majority of hectads and in most it occurs in multiple locations. As a result, there is limited scope for increases in range and decreases would typically require the total loss of habitat from multiple localities. However, NRW has no system in place for monitoring or recording such changes and losses of heath, for example to agricultural improvement, habitat succession or development, or gains notably through positive conservation management or as a result of relaxation of grazing pressure are not uncommon at individual locations.
4.11: Change and reason for change in surface area of range	The distribution data submitted in 2013 has not been updated.
5.4: Surface area; Method used	See 2.3
5.6: Short-term trend; Direction	Both losses and gains are known to be occurring (individual site records and anecdotal evidence) but there is insufficient information to determine how these are balanced. The ERAMMP Report for 2024 (Emmett et al 2024) shows a 3% increase in dwarf-shrub heath since 2010 using satellite imagery however it is possible that this is within the estimation error of the approach for the methodology. In addition the dataset does not distinguish between the H4030 European Dry Heath and the H4010 Northern Atlantic Wet Heath with Erica tetralix.
5.8: Short-term trend; Method used	Information on habitat loss and gain mostly pre-dates the 2012 reporting round. Some small areas of habitat were

	recorded in 2018, for example loss of wet heath to marshy grassland on Waun Cimla SSSI (NRW, 2018) and Cernydd Carmel SAC loss of 0.88 ha wet heath equating to 16% of the wet heath feature on the site (Wilkinson, 2018). No information on loss of wet heath has been recorded since 2018. Gains for wet heath are not well recorded however it is likely there have been gains in the uplands as a result of reduced grazing. The ERAMMP satellite data (see above) may represent a real change in habitat extent as it shows an expansion of dwarf-shrub vegetation, however it is difficult to determine whether this is an actual change in the Annex 1 habitat and requires more ground truthing.
5.12: Long-term trend; Method used	No change from the last reporting round as there is little information available to track losses and gains. There is no evidence to suggest that losses reported in 2012 have been re-gained (JNCC Archive 2017). The ERAMMP satellite data (see above) may represent a real change since 2010 in habitat extent as it shows an expansion of dwarf-shrub vegetation, however it is difficult to determine whether this is an actual change in the Annex 1 habitat and requires more ground truthing. Data collated during the sample survey of heathland in the Snowdonia National Park 2009-2011 (Gritten. R. 2012) has been analysed to show a 6% loss of wet heath (D.1.1 and D.5) between 1980's and 2009/11. This figure includes areas where there was evidence of actual loss through changes to the habitat rather than areas where habitat figures were recalculated due to better mapping. Losses are unlikely to be as large-scale as those recorded pre-1987 reporting round e.g. work on the Llyn Peninsula showed a 95% loss in wet heath between 1920/22 and1987/88 (Stevens 1992).

5.14: Change and reason for change in surface area	Whilst change may have occurred during the reporting period there is insufficient data to recalculate the surface area figure
6.1: Condition of habitat	Pre-2018 - SAC monitoring data. Northern Atlantic Wet Heath was assessed using Common Standards Monitoring on 12 sites, the feature was recorded as unfavourable on all sites except one which has been partially destroyed (NRW 2018). The NRW Protected sites baseline assessment 2020 (NRW 2020) provides an overview of feature condition. This was a desk-based review of site condition based on a range of datasets with variable confidence in the quality of the data and the condition assessments. The baseline assessment dashboard shows that H4010 is in favourable condition on 2 sites; Comins Tre-rhos and Glascwm and Gladestry Hills. The quality of the evidence and confidence in the condition assessment is high for Comins Tre-rhos and low for Glascwm and Gladestry Hills. The NRW Protected sites baseline assessment lists 37% of SSSI wet heath and 50% of SAC wet heath features as unfavourable and 59% of SSSI and 50% of SAC features as unknown. In addition, the national tracker programme (NRW 224), shows that monitoring on one site has found the wet heath feature to be in favourable condition on Craig Wen / Cors Castell SSSI (Rawlins 2023).
7.1: Characterisation of pressures	Pressures: 1. NRW SAFLE database 2024 The major issues recorded on the SAFLE database for H4030 are: • Inappropriate grazing is recorded as an issue on 3 sites and 16 units. Over grazing (PA07) is an issues on 1 site (2 units) and under-grazing (PA08) on 1 site (2 units). Grazing type/or timing is an issues on 12 units and

principally refers to the lack of cattle grazing.

• Insufficient cutting (PA06) is an issue on 1 sites and 1 unit. Insufficient management has resulted in scrub invasion and bracken invasion (P105) on 2 Sites and 3 units.

• Recreation and access (PF05) is recorded as an issue on 3 sites and 4 units.

• Non-native species (P103) are an issue on 2 sites and 2 units.

• Fire (PA09) is listed as an issue on 2 sites and 2 units

2. The NRW Life N2K dataset shows that 46% of issue risks identified for Northern Atlantic Wet Heath are of high priority and 30% are of high urgency. Of the high priority and high urgency risk 98% and 82% respectively relate to risks from agricultural and land management issues.

3. SAC Monitoring Data show that insufficient grazing and lack of appropriate heavy livestock (Wilkinson 2015, 2017 and 2018) are the key reasons for feature failure on lowland Northern Atlantic Wet Heath (PA08). Monitoring information from a small number of SSSIs in South and East Wales shows a similar picture with grazing and lack of management (PA08) being identified as the key pressures.

4. The LIFE Natura 2000 Programme a data shows that inappropriate grazing and livestock management is an issue or risk 78 out of 112 Natura 2000 sites across Wales (70%). The Thematic Action Plan Grazing and Livestock management recorded 163 instances of Northern Atlantic Wet Heath features being impacted by grazing issues. Monitoring data show that securing the correct grazing stock and maintaining an appropriate grazing regime remain a significant issue.

5. The Survey and Strategy for Anglesey's Lowland Heathlands 2023 (Kehoe 2024) found that grazing was the critical factor in determining habitat condition with the majority of sites have ungrazed or undergrazed compartments (PA08).

6. The nitrogen critical load (NCL) for A4030 has been set at 5kg/ha/yr by JNCC. 100% of the habitat extent lies within an area where the NCL has been exceeded. The 2024 ERAMMP (Emmett 2024) data show an increase in acidity on dwarf-shrub heaths soil possibly as the result of nitrogen deposition and climate change.

7. The 2024 ERRAMP report (Emmett 2024) shows that there is no or low detectable effect of Glastir prescriptions on the condition of dwarf-shrub heath.

Threats:

1. NRW SAFLE database 2024

The only identified risk is non-native species, rhododendron in the Eryri SAC.:

2. Changes to agricultural management and in particular grazing, as a result of policy or economic change, remains the greatest threat to Northern Atlantic Wet Heath . Improving the effectiveness of agri-environment schemes for dwarf-shrub heath will depend on the correct approach being taken through the Sustainable Farming Scheme (Welsh Government 2024a) which is currently under development.

3. The vast majority of heathland is open access and pressures are likely to grow in response to various initiatives to meet Welsh Governments goal of improving the opportunities to access the outdoors for responsible recreation (Welsh Government 2015). Wet heaths on peaty soils are particularly vulnerable to damage and erosion

	through footfall and vehicular activity (PF05). 4. There is a considerable amount of research literature on the long-term impacts of both nitrogen deposition (Southon et al 2012, 2013) and climate change (PJ03, PJ10, PK04) on heathlands (Fagúndez 2013). The response to these drivers of change can be slow and therefore remains a long-term threat, evidence has been collected on potential management measures to mitigate these impacts (Natural England 2013), (Barker et al 2004). 5. The impacts of the pathogens (I05) ramorum, P. kernoviae (and to a lesser extent P. pseudosyringae) on heathland have been well researched (Bishop and Jones 2011 and Conyers et al 2011. In heathland infection of Vaccinium is the primary concern (JNCC 2010) and therefore less of an issue on wet heath where Vaccinium is generally a smaller component of the vegetation. However, laboratory trials have shown that Calluna is also vulnerable to Phytophthora pathogens (JNCC 2010) and therefore this remains a threat to wet heath. 6. As the entire habitat resource lies within areas where the NCL is exceeded, nitrogen deposition will continue to be a threat to habitat structure and function. Nitrogen deposition may continue to be a factor in heathland soil acidification.
8.5: List of main conservation measures	1. NRW SAFLE database 2024 The database shows that since 2019 conservation measures have been completed on 3 sites and 8 units. These measures include direct action, negotiation of Management Agreements, issuing consents and investigations. (MA04, MA05, MA07, MI04, MI05, MB01, MF03). The majority of actions are listed as identified, planned, not agreed or underway. 2. The future Welsh Government Sustainable Farming (Welsh Government 2024a) scheme will be critical for improving the condition of this habitat particularly in light of

the low or no impact reported by Glastir monitoring (Emmett 2024).

3. Currently there are no landscape-scale projects underway in Wales which focus specifically on heathland habitats. Anglesey County Council has recently commissioned a resurvey and assessment of the Anglesey Heathland Strategy with costed heathland action plans for future funding opportunities (Kehoe 2024) Most active management of wet heath is undertaken at a site level by NGO land owners e.g. RSPB , National Trust etc. (MA05, MA04, MI04, MI05, MA13, MF03, MA07,MJ02).

4. National regulations are in place but have been insufficient to prevent continued high levels of N deposition nationally (ME03, MA11) and locally increasing ammonia pollution from expansion of poultry units.

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. 5. A decision-making framework has been developed to guide management response to Phytophthora outbreaks on heathland (Bunch et al 2016). This is targeted at Vaccinium but could be applied to other ericoid species(MI04)
9.1:Future trends and prospects of parameters	Area: Evidence suggests that currently there are both losses and gains in extent. Potentially there will be large gains in the uplands with reducing grazing as a result of changing agricultural policy and practice. Structure and function: 1. Only 26% of the habitat resource lies within the protected site network. Implementation of management to address issues outside the SSSI series is not well documented but Gritten (2012) suggests that agricultural and land management issues will continue to result in the loss of structure and function outside the designated sites. 2. It is projected that the combined impacts of a number of pressures will intensify in future, for example drought stress on wet heath is predicted to increase as a result of climate change and this could be exacerbated by nitrogen deposition (Dobben van 1991). 3. As the entire habitat resource lies within areas where the

	NCL is exceeded, nitrogen deposition will continue to be a threat to habitat structure and function. 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 unknown; (ii) the current Area is not more than 10% below the Favourable Reference Area and iii) the change in distribution pattern is unknown.
10.3: Specific structure and functions	Conclusion on Structure and function reached because: the condition of the habitat is unknown.
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 unknown; and (iii) the Future prospects for Structure and function are bad.
10.5: Overall assessment of Conservation Status	Overall assessment of Conseration Status is Unfavourable-bad because two of the conclusions are Unfavourable-bad.
11.3: Surface area of the habitat type inside the network; Method used	The area was calculated from the polygon data in 2012 and reviewed in 2018. It is larger than the total habitat area generated by summing values reported on the Standard Data Forms for the relevant N2K sites.
11.4: Short-term trend of habitat area within the network; Direction	Although all of the SAC features are currently in unfavourable condition, areas of good quality habitat will probably be present on all SAC sites.
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.