25 August 2025

# Mynydd Maen Wind Farm

## Request for further information: Ecology and Habitats

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# Contents

# 1 Introduction

## 1.1 Overview

1.1.1 This document has been prepared in response to a formal request for further information issued by Planning and Environment Decisions Wales (PEDW) as part of the ongoing planning application for the Mynydd Maen Wind Farm (DNS/3276725). The request forms part of the regulatory framework under Regulation 24 of the Environmental Impact Assessment (EIA) Regulations and Regulation 15(2) of the Development of National Significance (DNS) regulations. The regulations mandates consultation and submission of supplementary technical information to support the determination of the application and the formal request was made by PEDW in a letter addressed to the Applicant dated 03 June 2025.

1.1.2 This letter provides a response to the principal ecological points identified by Planning and Environment Decisions Wales (PEDW) in their letter of 30th June 2025.

## 1.2 Authors

1.2.1 The following have been involved in the completion of this rebuttal:

### James Darke (Senior Ecologist).

1.2.2 James completed the field survey work to inform this response. He holds a FISC Level 5 certificate and is an experienced botanist who has undertaken numerous surveys that have required the application of Phase 1, NVC, UK Habs and Common Standards Monitoring techniques. James has almost 20 years of experience as a professional ecologist.

### Owain Gabb (Director)

1.2.3 Owain was the principal author of this response and of the Ecological Impact Assessment for the wind farm project and has liaised with the commoners about the delivery of the Habitat Management Plan. Owain has planned and co-ordinated wide-ranging survey and assessment work for birds, protected species and habitats across the UK and Ireland. He has been a professional ecologist since 1999 and has worked in consultancy since 2003.

### Peter Shepherd (Director)

1.2.4 Peter is an expert botanist who will lead on peat habitats during any hearing for the scheme. His botanical expertise, which includes detailed knowledge of upland NVC communities, allows him to input to habitat management and monitoring plans, and he has experience working with peatland hydrologists and geomorphologists to address impacts on peatland habitats through design and mitigation.

## 1.3 Stakeholder Concerns

### Overview of Concerns

1.3.1 The PEDW Case Officer summarises the principal points of concern raised by Natural Resources Wales (NRW) and the Welsh Government (WG) Soil, Peatland and Agricultural Land Use Planning Unit (commonly referred to as LQAS) with regard to ecology as follows:

*"Both NRW and WG's Soil, Peatland and Agricultural Land Use Planning Unit offer significant objections on the impact on peat resource and its associated habitat. The applicant is required to provide a full rebuttal to those concerns, including but not limited to, a response to the concerns raised regarding the application of PPW's stepwise approach (including whether footnote 129 applies) and a rebuttal to the concerns about the ability to effectively restore, relocate or recreate peat habitats.*

*WG has also raised significant concerns at page 3 of its representation regarding the lack of Phase II NVC vegetation surveys undertaken on site, including the lack of any 2x2 quadrat sampling and data (including GPS location and photographs). This alleged lack of supporting evidence raises concerns that irreplaceable Section 7 habitats may not have been appropriately identified on site. A full rebuttal, and additional evidence where considered necessary, is requested from the applicant."*

## LQAS

1.3.2 In their objection letter of 20 May 2025, Reference DNS/3276725, LQAS appear to assert that all habitats on peat are irreplaceable, noting that Planning Policy Wales (Footnote 129 of which concerns irreplaceable habitats) does not qualify its definition based on habitat quality or soil depth.

1.3.3 LQAS then go on to state (bold type is reproduced from their statement):

*"Peatland habitats are semi-natural habitats associated with both peat soils **and** shallow peat and listed under Section 7(1) of the Environment Act (Wales) 2016. Paragraph 6.4.15 1a and 1b of PPW covers all areas of peatland habitat on both peat soils and shallow peat soils.*

*The department has significant concerns of the lack of NVC Phase II vegetation surveys undertaken on site. Paragraph 6.12.97 notes [emphasis added]:*

> *6.12.9 To provide more detailed habitat information, **the surveyor also assigned** all areas of grassland, heath, and mire habitat within the survey area to plant communities published within the National Vegetation Classification (Rodwell 1991; 1992). **NVC communities were assigned based on the experience of the surveyor**, and with reference to the community descriptions and keys in Rodwell (1991, 1992) and Turner (2006).*

*The approach undertaken by the applicant is not considered to represent a robust Phase II NVC survey as described in JNCC NVC Users' Handbook to support a planning application. The lack of any 2x2m quadrat sampling and data (including GPS location, and photographs) make it impossible to test the veracity of the surveyors' assignments. The lack of supporting survey evidence raises concerns that important irreplaceable Section 7 Habitats may have not been appropriately identified on site, including their extent in respect of infrastructure siting choices (i.e. avoidance)."*

## NRW

1.3.4 In their letter of 19 May 2025, Reference CAS-278930-C8N5, NRW acknowledge and welcome some points of clarification concerning protected species and indicate their acceptance that survey data collected to inform the Ecological Impact Assessment (and Ornithological Impact Assessment) remain valid. NRW also indicate various commitments which can be secured by condition. It appears from the response that ornithology and ecology, with the exception of peat habitats, is common ground.

1.3.5 NRW make various comments regarding peat which are outside the scope of this response. With regard to peat habitats, NRW state:

"*We advise that from an ecological perspective, it is not possible to properly recreate peat habitats once the peat profile has been lost or excavated. In view of the specific past environmental conditions and the time taken for peat and peatland ecosystems to develop, we advise that mitigation measures such as*

*reuse of peat soils is generally not considered a suitable response to ensure the biodiversity value is maintained*."

## Torfaen County Borough Council (TCBC)

1.3.6 TCBC's Local Impact Report (LIR) does not indicate any substantive points of ecological concern, identifies various opportunities to secure ecological mitigation via condition and welcomes habitat management proposals. Clarification is requested by TCBC as to why a collision risk assessment for bats has not been completed.

## Caerphilly County Borough Council (CCBC)

1.3.7 CCBC's Local Impact Report (LIR) states that peat should be "*avoided in micro siting the turbines*." It indicates that other ecological mitigation can be secured by condition. No other ecological concerns are identified.

## Gwent Wildlife Trust (GWT)

1.3.8 In a letter of 19 May 2025, Reference DNS/3276725 – Mynydd Maen Wind Farm, GWT indicate that their concerns are principally impacts on Sites of Importance for Nature Conservation (SINCs), the cumulative impacts of proposed wind and solar developments on biodiversity, ensuring the development (if consented) achieves a net benefit for biodiversity and that any biodiversity commitments are conditioned, enforceable and adhered to. There is no indication from the letter that GWT objects to the proposals.

## Mynydd Maen Common Wind Farms Action Group (MMCWFAG)

1.3.9 MMCWFAG object to the proposals on various grounds, including with regard to ecology. Their principal points of ecological concern are briefly outlined below (the objection letter should be referred to for more detailed context):

- Inappropriate appropriation of measures identified in the Commons Innovation Plan to form the basis of habitat management proposals.
- The extent to which the step-wise approach has been followed and the conclusions of the Green Infrastructure Statement.
- The lack of a tree protection plan.
- Habitat loss as a result of the development on the Common.
- Loss of ancient beech woodland, ancient beech hedgerow, scrub and trees, important grassland, woodland plant communities and hydrological effects from works relating to the access road.
- Impacts on the 'newly-discovered' great crested newt population, and insufficient mitigation with regard to the same.
- Lack of consideration of Torfaen and Caerphilly Local Biodiversity Action Plans (LBAPs).
- Lack of a grassland fungi survey. Fungi are a feature of the Torfaen-Mynydd Maen SINC.
- Lack of an invertebrate survey (with particular regard to Silurian moth).
- Lack of otter survey.
- Cumulative impacts.
- Air pollution.

1.3.10 In addition to the above MMCWFAG also refer to legal and policy protection afforded to biodiversity in their response and assert that the outline Habitat Management Plan is insufficient and the lack of a Landscape and Environmental Management Plan of particular concern.

# 2 Response to Stakeholder Comments

## 2.1 Overview of Concerns

### Response to points concerning NVC

*2.1.1* The Inspector's summary includes reference to the assertion by LQAS that the approach to Phase II vegetation survey (NVC) is not robust. The comments in the LQAS response refer to the lack of "*2x2m quadrat sampling and data (including GPS location, and photographs) making it impossible to test the veracity of the surveyors' assignments."*

2.1.2 Section 8.1 of the NVC handbook (Rodwell, 2006[1]), when describing the approach to NVC states, "Many users of the NVC wish to apply the scheme to identify vegetation which they encounter in the field. This involves making a comparison between such stands and the plant communities summarised in the floristic tables and described in the community accounts. With practice, it is possible for surveyors to make such comparisons without recording any data at all, just as experienced field botanists learn to recognise plant species on sight without recourse to a polythene bag and a flora." The purpose of an NVC is to assign habitats to community type; this text indicates there is flexibility with regard to how this is done that relates to the experience of the observer and other factors such as the complexity of the habitat.

2.1.3 With reference to Figure 6.9 a-c and the account of the vegetation in Chapter 6 of the Environmental Statement (Sections 6.14.17 – 6.14.63 inclusive), which describes the plant communities in Phase 1 habitat terms, assigns vegetation to NVC communities and assesses whether these correspond to priority habitats, it is clear that the Site is dominated by a limited range of habitats. This relative homogeneity reflects the dryness of the peat on Site, and its limited depth. Dry dwarf shrub heath dominates, with wet heath habitats very limited in extent and avoided through the iterative Site design process[2].

2.1.4 The approach to vegetation survey reflected the size of the Site, its relatively homogeneous nature and the ease with which habitats could be characterised. With regard to the comments by LQAS, it would therefore not be complicated to check the veracity of the results based on the vegetative descriptions and habitat maps provided in the ES; quadrat data are not required to do this.

2.1.5 Notwithstanding the above, in an attempt to address LQAS's comment fully, an experienced vegetation surveyor, James Darke (FISC 5), visited the Site in July 2025. The purpose of the visit was to sample the communities present (using quadrats) so that standard analytical tools could be used to establish goodness of fit to NVC community types. The results for habitats within the development footprint confirmed those of the earlier survey work and are set out below. The locations of quadrats in relation to Phase 1 habitats and peat depth are shown on Figure 1. Photographs and detailed locational information for quadrats are provided in Appendix 1. Should LQAS choose to visit the Site, it will therefore be possible for them to independently determine vegetation type and compare their results with those outlined here.

## Description of Vegetation included in ES Chapter 6: Ecology

2.1.6 Chapter 6 of the Environmental Statement stated that the more ecologically valuable habitats that could not be reasonably avoided by the footprint of the development were:

- Dry heath (acid dry dwarf shrub heath). Survey work to inform the ES assigned the dry heath to NVC community H12 *Calluna vulgaris-Vaccinium myrtillus* heath, with both the H12a (*Calluna vulgaris*) and the H12c (*Galium saxatile-Festuca ovina*) sub-communities and various transitions between the two sub-communities noted.
- A mosaic of dry heath and acid grassland. It was indicated in the Ecology ES Chapter that in NVC terms this corresponded with dry heath (H12) and acid grassland (U4/5) habitats.

2.1.7 Habitats of value and present outside the development footprint, and unaffected by it (directly and indirectly), included wet heath (wet dwarf shrub heath). This was attributed to the M25 *Molinia caerulea-Potentilla erecta* mire NVC community, although some similarity to M15 *Scirpus cespitosus-Erica tetralix* wet heath was noted.

2.1.8 Acid grassland in the western part of the Site was scoped out of detailed impact assessment due to its 'low intrinsic ecological value.' Acid grassland on Site was found to correspond to the U4 and U5 NVC communities. Other habitats including acid flush and marshy grassland were considerably outside of the footprint or of very limited ecological value and are not summarised here.

## Description of Vegetation based on Botanical Survey in 2025

2.1.9 An NVC survey was undertaken at Mynydd Maen on the 17 and 24 July 2025 for the following purposes:

- To confirm / correct the NVC community assignments made by field assessment (without quadrats) by habitat surveyors during Phase 1 surveys.
- To provide quadrat data that LQAS and any other nature conservation stakeholder might use to confirm the veracity of the vegetation classification previously undertaken and reiterated below.

2.1.10 The Site was walked over and quadrats taken in areas of deeper and shallower peat across the habitat types present; areas with proposed wind farm infrastructure were prioritised for sampling. The locations of quadrats are illustrated on Figure 1. Tables attributing goodness of fit to defined NVC communities, and photographs of the quadrats are contained in Appendix 1.

2.1.11 Dry heath (acid dry dwarf shrub heath) corresponded to the H12 NVC *Calluna vulgaris-Vaccinium myrtillus* heath community, with both the H12a and H12c sub-communities represented.

- The dry heath on mineral or shallow peaty soils was noted as usually containing heather *Calluna vulgaris*, bilberry and crowberry *Empetrum nigrum* as its shrubby constituents, with varying levels of cover of the three species. The vegetation was fairly open and grassy. It showed similarities to both the grassy sub-community of H12 *Calluna vulgaris – Vaccinium myrtillus* heath (*Galium saxatile – Festuca ovina* subcommunity H12c) and the mossy and ericaceous subcommunity of the U4 grassland (*Vaccinium myrtillus – Deschampsia flexuosa* subcommunity U4e).

[1] Rodwell, J.S. (2006). National vegetation classification users' handbook. Joint Nature Conservation Committee, Peterborough.

[2] The step-wise approach was applied. While the wet heath is significantly degraded, its resource in terms of the Site is limited, and the wind farm was designed to avoid it.

- The vegetation on deeper peat showed a better match to the H12a typical subcommunity (*Calluna vulgaris* subcommunity) with heather having an increased cover and frequency, however sub shrubs such as crowberry were still present and had a contribution comparable to heather in some areas. A localised H12a community with the addition of frequent common cottongrass *Eriophorum angustifolium* was noted at Target Note (TN) 101 on Figure 1.

2.1.12 The NVC communities attributed to the areas of dry heath / acid grassland mosaic broadly matched the NVC assignments of the constituent communities.

- The vegetation in general was a grassy form of heath with bilberry constant throughout and varying frequencies and cover of heather and crowberry (NVC community H12c). Grassier areas on mineral soils/ shallow peat showed limited goodness of fit to U4e.
- Communities sampled on deeper peat showed low matches to U4e/ H12c. In localised areas with damper conditions, species poor stands of dense, tall soft rush-dominated marshy grassland (corresponding to the MG10 NVC community) were present.

2.1.13 Wet heath communities occur within the Site boundary but will not be impacted by the proposed development[3]. The vegetation across these communities was noted as drying and degraded, and grazing by cows and sheep was apparent. Bare patches of drying peat occurred commonly, and signs of poaching were seen throughout. The ground was firm underfoot. The habitat showed similarities with and some differences from a number of NVC communities as follows:

- The wet heath communities showed similarities with the grassy *Vaccinium myrtillus* subcommunity of *Scirpus cespitosus – Erica tetralix* wet heath M15d, and also the *Erica tetralix* subcommunity of the *Calluna vulgaris – Eriophorum vaginatum* blanket mire M19a. The M15d subcommunity is a grassier mire characterised by presence of mat grass, wavy hair-grass and heath rush as well as purple moor-grass and heather. The M19a subcommunity contains purple moor-grass and heath plait-moss *Hypnum jutlandicum* and is generally found over 350m altitude and on dryer peat than other blanket mire communities. The lack of deergrass *Trichophorum germanicum* (*Scirpus cespitosus*) and cross-leaved heath *Erica tetralix* (*E. tetralix* was detected in similar habitat further south where grazing pressure from sheep was reduced) reduced the goodness of fit to both.
- The previous survey had attributed these wet heath habitats to the M25 *Molinia caerulea-Potentilla erecta* mire NVC community. This is similar to M15d and to M19a. M19 mires can give way to dryer types of M15 wet heaths on thin peat for example in response to drying from burning, exposure from poaching or changing climate.

2.1.14 The acid grassland on Site was also sampled for completeness. This was scoped out of detailed assessment in Chapter 6: Ecology of the ES due to its limited botanical interest and value.

- Acid grasslands on mineral/ shallow peaty soils were short and sheep grazed, containing frequent sheep's fescue *Festuca ovina* and common bent *Agrostis capillaris*, as well as mat grass *Nardus stricta* and heath rush *Juncus squarrosus*. Vegetation in these habitats showed low matches with both U4 *Festuca ovina -Agrostis capillaris -Galium saxatile* grassland and U5 *Nardus stricta – Galium*

[3] Generic Earthworks associated with Turbine 8 indicatively marginally encroach on wet heath. The project engineers have confirmed that the footprint of the temporary works will only be confirmed once Site investigations are completed, but that irrespective of this there is enough flexibility to ensure that spoil does not affect the wet heath at Turbine 8.

*saxatile* grasslands, due to the presence of species found in both communities, and the absence of others, such as tormentil *Potentilla erecta*, possibly due to the grazing pressure in that part of the Site.

- In areas of deeper peat which supported acid grassland, matches to the same communities were better, possibly due to the addition of species such as wavy hair-grass *Deschampsia flexuosa* and red-stemmed feathermoss *Pleurozium schreberi*

### Conclusion

2.1.15 The areas sampled showed that NVC communities identified by eye during the Phase 1 survey were consistent with the NVC communities used to describe the vegetation using quadrat data.

2.1.16 Only small vegetation community differences corresponding to minor cover changes and addition or loss of a small number of associate species were detected by the NVC quadrat survey between areas of mineral/ shallow peaty soils and areas of deeper peat within the same Phase 1 habitat types.

2.1.17 NVC communities within the development footprint were consistent with the classification of vegetation determined by the use of NVC keys and surveyor experience. Outside the development footprint wet heath vegetation as previously described falls between NVC communities M25, M15d and M19a, which is reflected in the goodness of fit scores for these community types. As such the wet heath community has been attributed to a range of different NVC community types by MAVIS[4] (very similar in character to the community they had previously been attributed to in species composition / and associated with drying and / or degradation through burning and grazing).

2.1.18 It follows that the survey work completed in 2025 has confirmed the work undertaken to inform ES Chapter 6: Ecology. It has further demonstrated that (assumedly) due to the dried out nature of the Site there is very limited variation in vegetation between areas of deeper and shallower peats and peaty soils.

## 2.2 LQAS

### Land take from NVC Communities

2.2.1 Permanent land take from NVC communities on peat (defined as in excess of 30 cm) and mineral soils (those with an organic layer less than 30 cm in depth) are set out in Table 1.

| NVC Habitat / Ecologist defined | Peat >30 cm | Mineral Soil | Grand Total |
|---|---|---|---|
| U4/U5 | 0.02741 | 0.58758 | 0.61499 |
| Marshy grassland | 0 | 0.06194 | 0.06194 |
| Bracken | 0.00907 | 0.33449 | 0.34356 |
| H12 | 0.36156 | 4.19822 | 4.55978 |
| U4e/H12a/H12c | 0.23932 | 2.07271 | 2.31203 |
| Total (hectares) | 0.63736 | 7.25494 | 7.8923 |

[4] Modular Analysis of Vegetation Information System (MAVIS). MAVIS is a program that assigns vegetation data to a number of different classification systems.

*2.2.2* Permanent land take includes areas identified for crane pads, turbine footings, access tracks and the substation.

### 2.2.3 Irreplaceable habitat

2.2.4 The majority of LQAS's points on ecology are addressed in the preceding sections. However, LQAS assert in their response that habitats on peat are irreplaceable.

2.2.5 The proposed development has adopted the step-wise approach to design, and avoided wet heath habitats, which are a locally scarce resource and which would be complex to recreate on the Site. The dry heath habitat that will be affected by the development is locally widespread. It occurs on both the dried out thin peats and mineral soils on the Site, and does not require the presence of peat to occur. With appropriate soil management it will re-establish in any temporarily impacted areas of the Site. Proposed habitat management will aim to push back the bracken and feral trees that are invading the Site, re-instating areas of dry heath and establishing a better managed area of varied age dry heath habitat.

2.2.6 Footnote 129 of Planning Policy Wales 12 provides the following definition of irreplaceable habitat, "*Habitats, including the natural resources which underpin them, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity.* It follows that the dry heath on Site does not align with this definition of irreplaceability.

### NRW

2.2.7 Points concerning the storage and re-use of peat / soil (also raised by LQAS) are addressed in the response on peat, hydrology and hydrogeology found in *2025-08-26 – Peatland Resource Response (SLR).*

### Torfaen CBC

2.2.8 Collision risk analysis for bats was not completed as part of the ecological impact assessment. It is not possible to accurately assess bat flight height and direction as part of baseline studies for wind farm planning applications, and there is no information on avoidance rates. Collision risk analysis for bats is therefore not completed as part of EcIA for onshore wind farms.

2.2.9 In accordance with industry standard guidance (NatureScot, 2021), bat survey is predominantly via the use of static detectors, which are deployed for extended periods in spring, summer and autumn. These collect data on the times and frequency of bat encounters at indicative turbine locations that can be considered in conjunction with site-specific weather data to characterise the bat assemblage and understand the times of night / of the year and the weather conditions in which bats occur. In assessing likely impacts on bats, consideration is given to empirical data (from across Europe) on known collision fatality recorded during monitoring work, and to conservation status. This is the accepted way of assessing likely impacts and reflects guidance; it was the approach taken in the ecology chapter of the ES.

### Gwent Wildlife Trust (GWT)

2.2.10 With regard to the points raised by Gwent Wildlife Trust:

- SINCs within and close to the Site boundary are identified in 6.14.9 of Chapter 6: Ecological Impact Assessment. Impacts on them are assessed in 6.21.4 to 6.21.8 inclusive. Biodiversity net benefit proposals, which include better management of the SINCs are detailed in Paragraphs 6.25.1 –

6.25.12 inclusive. Table 6.19 concerning residual ecological effects concludes that if habitat management measures are implemented the result will be positive (beneficial) at the local level with regard to SINCs.

- Cumulative effects are assessed in Section 6.28 (Paragraphs 6.28.1 to 6.28.20 inclusive).
- Initiatives to achieve a net benefit for biodiversity, in accordance with planning policy, are set out in Section 6.25 (Paragraphs 6.25.1 to 6.25.12 inclusive) and Technical Appendix 6.7 of the Environmental Statement.

## MMCWFAG

2.2.11 The various points from MMCWFAG are addressed in the table below.

*Table 2. MMCWFAG Comments and Responses*

| **Concern Raised** | **Response** |
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| Inappropriate appropriation of measures identified in the Commons Innovation Plan to form the basis of habitat management proposals. | The Commons Innovation Plan (CIP) has been used to inform the Habitat Management proposed. The CIP was written by professional ecologists working in conjunction with the local authority ecologist and involved considerable consultation with local commoners. The proposed habitat management within it is logical and based on established moorland conservation management practices. The CIP is not being actively implemented due to a lack of funding.<br><br>Ecological measures to bring the common into better condition would intuitively involve removal of invasive (feral) trees, controlling invasive bracken, creating mixed-age heathland (with firebreaks) and, where possible, re-wetting of areas of peat to improve the condition and extent of small areas of wet heath and modified bog. These measures would be suggested whether the CIP existed or not. |
| The lack of a tree protection plan. | The only native trees to be lost / affected by the development will be along the access road. Measures to avoid / minimise impacts on retained trees can be identified in the CEMP. |
| Loss of ancient beech woodland, ancient beech hedgerow, scrub and trees, important grassland, woodland plant communities and hydrological effects from works relating to the access road. | There will be no loss of ancient woodland as a result of the proposed wind farm. The development will not result in land take from woodland habitats. Ancient Woodland Inventory data held by Natural Resources Wales was reviewed as part of desk study relating to the project.<br><br>There will be no loss of woodland plant communities as a result of the development.<br><br>There will be no loss of important grassland as a result of the development. Impacts on grassland are fully assessed in Chapter 6 of the Environmental Statement.<br><br>With regard to hedgerows, Chapter 6 states (quoted text from 6.21.27 and 6.21.27 respectively):<br><br>• Hedgerows adjoining the road from Pantside to the Site entrance are species poor. Trees occur in places, but the majority of the hedgerow is box cut to 1.5 m height. Within the fields to the north the hedgerows are tall and leggy with a grazed out / defunct understory. The canopy is dominated by hawthorn with frequent |

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| | bramble and occasional field maple. Trees, where present, are mainly beech with occasional ash.<br>• *"A short section of the access (approximately) will be routed through pasture fields to minimise impacts on local residents using Old Pant Road. This will require three points of hedgerow severance, totalling 53 m of loss. Elsewhere, trimming will largely be similar in nature to normal hedgerow management, albeit may result in some woody vegetation being taken down to ground level as required. This will include some immature beech trees on the southern side of the road junction at Ordnance Survey Grid Reference ST 22386 98348.*<br>In 6.21.28 it is concluded that given the scale of hedgerow loss effects are unlikely to be significant at more than the Site level. |
| Impacts on the 'newly-discovered' great crested newt population, and insufficient mitigation with regard to the same. | The great crested newt population on the Site is not newly-discovered. As detailed in Section 6.4.133 of Chapter 6 of the ES, desk study established that the Southeast Wales Biological Records Centre held 16 records of the species. At the time of the data request the most recent of these was from 2019. Consultation with the Caerphilly and Torfaen local authority ecologists indicated that all were aware of the population, and that ecologists from Torfaen had surveyed the on-site ponds for the species some years previously.<br>Mitigation measures set out in the ES have been based on advice and comment provided by NRW with regard to the application and the population concerned. NRW are the licensing body with regard to European Protected Species such as great crested newt, in Wales. Paragraph 6.19.2 sets out that a detailed great crested newt mitigation and conservation plan will be needed to support licencing, and outlines what this will contain (reflecting NRW's advice). Paragraphs 6.24.8-6.24.13 provide further information including clear commitments to pond creation and management. A further commitment to investigate the potential for pond establishment in land swop areas is in Paragraph 6.25.9. |
| Lack of consideration of Torfaen and Caerphilly Local Biodiversity Action Plans (LBAPs). | Appropriate consideration has been given to the Torfaen and Caerphilly Local Biodiversity Action Plans. For example 6.14.50 assesses whether areas of bracken correspond to priority ffridd habitat as defined in the Caerphilly LBAP. Elsewhere there is reference to LBAP priority habitats and species where relevant.<br>However, both the Caerphilly (2002) and Torfaen (2003) LBAPs are dated, preceding both the Section 42 priority habitats and species lists (set out in the Natural Environment and Rural Communities Act, 2006) and the Section 7 list (Environment Wales Act, 2016) that replaced it.<br>To ensure local biodiversity priorities were appropriately considered, the project ecologists met with and discussed ecological and ornithological issues and opportunities with regard to the scheme with both the Caerphilly and Torfaen local authority ecologists.<br>Neither of the county ecologists has objected to the application. |
| Lack of a grassland fungi survey. | The response refers to the Mynydd Maen – Torfaen SINC. This is taken to be a reference to the Mynydd Maen and Mynydd Llwyd SINC, which covers the north-eastern part of the Site and is within the County Borough of Torfaen. |

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| | No requirement for a grassland fungi assessment was identified by nature conservation stakeholders, including the Torfaen County Borough Council ecologist. Information relating to the SINC is very limited and refers to 'common land' as the reason for designation. Walkover botanical survey completed in summer 2025 recorded heathland communities present within the development footprint in this area (as opposed to grassland). No clear driver for a fungal survey was therefore identified. |
| Lack of an invertebrate survey (with particular regard to Silurian moth). | Table 6.1 of the Ecology Chapter addresses Silurian moth.<br><br>The species is confined to land above 450 m altitude. The larval foodplant is bilberry, and optimal habitat features bilberry with a deep associated moss layer (in which the caterpillars hide during the day). There is very little land above the 450 m contour at Mynydd Maen, and the Site is outside the known range of the species in the UK (the most southerly breeding record is for Twyn Du (Abertillery) and was of a caterpillar recorded by BSG Ecology staff in spring 2023 - this was at higher elevation (c. 550 m) and approximately 5 km to the north).<br><br>Liaison with the local Lepidoptera recorder (Martin Anthoney [now deceased]), Butterfly Conservation staff and a review of published literature (Tordoff & Williams, 2018) in which the Site was scoped out of searches to establish the range of the species were considered in discounting the need to survey. A previous (historical) survey of the Site by NRW had not recorded the species as present. The approach was discussed with both Torfaen and Caerphilly CBCs and a record is contained in the meeting notes in ES Appendix 6.2.<br><br>It would be very unusual to complete more generic invertebrate surveys to inform a wind farm application. The need for invertebrate survey tends to be driven by a specific concern (such as a protected invertebrate species e.g. marsh fritillary butterfly), as land take is limited and habitat management can deliver enhancements that will benefit invertebrates (as in the case of Mynydd Maen). |
| Lack of otter survey | The need for otter survey was scoped out on the basis that there are no watercourses on Site and only minor streams with very variable flow are present on adjoining slopes. A dry ditch close to the access route was also considered to have no potential to support otter. Further detail is provided in Paragraphs 6.14.147 and 6.14.148 of the Ecology ES Chapter.<br><br>It is noted in the ES Chapter that otter are likely to cross the Site, and that measures will be needed to ensure legislative compliance with regard to the species. These will be set out in the Construction Environmental Management Plan. |
| Cumulative impacts | Cumulative impacts are assessed in Section 6.28 (Paragraphs 6.28.1 to 6.28.20 inclusive). |
| Air pollution | Chapter 10 of the ES concerns Traffic, Transport and Access. With regard to air pollution, the chapter states in 10.13.16:<br><br>"*A Dust Management Plan would be agreed with the relevant County Borough Council(s) to ensure appropriate dust mitigation measures are in place during the construction phase*."<br><br>When considering residual impacts, the chapter states in 10.9.1: |

| | |
|---|---|
| | *"In general, daily traffic flows along the anticipated construction traffic route would increase by no more than 8 % during peak delivery days in the 15 month wind farm / construction period. The Institute of Environmental Assessment's Guidelines for the Environmental Assessment of Road Traffic states that it should be assumed that anticipated changes in traffic flow of less than 10% would create no discernible environmental effect."* |

# 3 Conclusion

3.1.1 The ecological assessment and supplementary survey work undertaken in response to stakeholder concerns confirm that the Proposed Development will not result in unacceptable ecological impacts.

3.1.2 RES remains committed to constructive engagement throughout the planning process and welcomes the opportunity to meet with stakeholders, consultees, and interested parties. We are happy to address any outstanding, maintained, or emerging concerns as part of the next round of consultation.

3.1.3 Our aim is to work collaboratively toward a shared understanding and to identify areas of common ground ahead of the hearing. We believe this approach will support a transparent and informed dialogue ultimately contributing to a robust and balanced decision-making process.

# 4 Appendix 1 - Modular Analysis of Vegetation Information System (MAVIS): Data Input and Outcomes

Data for each quadrat were analysed individually other than for the wet heath communities, for which data were combined for analysis.

## 4.1 Table 1. Data Input to MAVIS

| Year | Group | Quadrat | Species | Cover |
|---|---|---|---|---|
| 2025 | U4mineral | 2 | *Vaccinium myrtillus* | 25 |
| 2025 | U4mineral | 2 | *Galium saxatile* | 20 |
| 2025 | U4mineral | 2 | *Juncus squarrosus* | 15 |
| 2025 | U4mineral | 2 | *Festuca ovina* | 10 |
| 2025 | U4mineral | 2 | *Nardus stricta* | 5 |
| 2025 | U4mineral | 2 | *Agrostis capillaris* | 10 |
| 2025 | U4mineral | 2 | *Rhytidiadelphus squarrosus* | 15 |
| 2025 | U4mineral | 2 | *Dicranum scoparium* | 1 |
| 2025 | U4mineral | 2 | *Hypnum jutlandicum* | 1 |
| 2025 | U4mineral | 2a | *Vaccinium myrtillus* | 15 |
| 2025 | U4mineral | 2a | *Galium saxatile* | 20 |
| 2025 | U4mineral | 2a | *Juncus squarrosus* | 20 |
| 2025 | U4mineral | 2a | *Festuca ovina* | 10 |
| 2025 | U4mineral | 2a | *Nardus stricta* | 5 |
| 2025 | U4mineral | 2a | *Agrostis capillaris* | 20 |
| 2025 | U4mineral | 2a | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | U4mineral | 2a | *Hypnum jutlandicum* | 1 |
| 2025 | U4mineral | 2a | *Avenella flexuosa* | 5 |
| 2025 | U4peat | 1 | *Vaccinium myrtillus* | 20 |
| 2025 | U4peat | 1 | *Galium saxatile* | 10 |
| 2025 | U4peat | 1 | *Juncus squarrosus* | 30 |
| 2025 | U4peat | 1 | *Festuca ovina* | 5 |
| 2025 | U4peat | 1 | *Nardus stricta* | 10 |
| 2025 | U4peat | 1 | *Agrostis capillaris* | 10 |
| 2025 | U4peat | 1 | *Rhytidiadelphus squarrosus* | 15 |
| 2025 | U4peat | 1 | *Avenella flexuosa* | 1 |
| 2025 | U4peat | 1 | *Pleurozium schreberi* | 2 |
| 2025 | U4peat | 1a | *Vaccinium myrtillus* | 50 |
| 2025 | U4peat | 1a | *Galium saxatile* | 5 |
| 2025 | U4peat | 1a | *Juncus squarrosus* | 40 |
| 2025 | U4peat | 1a | *Festuca ovina* | 10 |
| 2025 | U4peat | 1a | *Nardus stricta* | 10 |
| 2025 | U4peat | 1a | *Agrostis capillaris* | 15 |
| 2025 | U4peat | 1a | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | U4peat | 1a | *Avenella flexuosa* | 5 |
| 2025 | H12mineral | 4 | *Vaccinium myrtillus* | 35 |
| 2025 | H12mineral | 4 | *Galium saxatile* | 5 |

| Year | Group | Quadrat | Species | Cover |
|---|---|---|---|---|
| 2025 | H12mineral | 4 | *Juncus squarrosus* | 10 |
| 2025 | H12mineral | 4 | *Festuca ovina* | 10 |
| 2025 | H12mineral | 4 | *Nardus stricta* | 5 |
| 2025 | H12mineral | 4 | *Agrostis capillaris* | 10 |
| 2025 | H12mineral | 4 | *Rhytidiadelphus squarrosus* | 10 |
| | | | | |
| 2025 | H12mineral | 4 | *Dicranum scoparium* | 1 |
| 2025 | H12mineral | 4 | *Avenella flexuosa* | 8 |
| 2025 | H12mineral | 4 | *Pleurozium schreberi* | 1 |
| 2025 | H12mineral | 4 | *Empetrum nigrum* | 10 |
| 2025 | H12mineral | 4 | *Calluna vulgaris* | 2 |
| 2025 | H12mineral | 4a | *Vaccinium myrtillus* | 40 |
| 2025 | H12mineral | 4a | *Juncus squarrosus* | 5 |
| 2025 | H12mineral | 4a | *Festuca ovina* | 5 |
| 2025 | H12mineral | 4a | *Nardus stricta* | 2 |
| 2025 | H12mineral | 4a | *Agrostis capillaris* | 2 |
| 2025 | H12mineral | 4a | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | H12mineral | 4a | *Avenella flexuosa* | 15 |
| 2025 | H12mineral | 4a | *Pleurozium schreberi* | 1 |
| 2025 | H12mineral | 4a | *Empetrum nigrum* | 50 |
| 2025 | H12mineral | 4a | *Calluna vulgaris* | 2 |
| 2025 | H12peat | 3 | *Vaccinium myrtillus* | 40 |
| 2025 | H12peat | 3 | *Galium saxatile* | 5 |
| 2025 | H12peat | 3 | *Festuca ovina* | 1 |
| 2025 | H12peat | 3 | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | H12peat | 3 | *Dicranum scoparium* | 2 |
| 2025 | H12peat | 3 | *Hypnum jutlandicum* | 5 |
| 2025 | H12peat | 3 | *Avenella flexuosa* | 5 |
| 2025 | H12peat | 3 | *Pleurozium schreberi* | 5 |
| 2025 | H12peat | 3 | *Kindbergia praelonga* | 1 |
| 2025 | H12peat | 3 | *Empetrum nigrum* | 40 |
| 2025 | H12peat | 3 | *Calluna vulgaris* | 10 |
| 2025 | H12peat | 3 | *Dryopteris carthusiana* | 1 |
| 2025 | H12peat | 3a | *Vaccinium myrtillus* | 40 |
| 2025 | H12peat | 3a | *Galium saxatile* | 5 |
| 2025 | H12peat | 3a | *Festuca ovina* | 1 |
| 2025 | H12peat | 3a | *Agrostis capillaris* | 5 |
| 2025 | H12peat | 3a | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | H12peat | 3a | *Hypnum jutlandicum* | 2 |
| 2025 | H12peat | 3a | *Avenella flexuosa* | 5 |
| 2025 | H12peat | 3a | *Pleurozium schreberi* | 10 |
| 2025 | H12peat | 3a | *Juncus effusus* | 15 |
| 2025 | H12peat | 3a | *Empetrum nigrum* | 15 |
| 2025 | H12peat | 3a | *Calluna vulgaris* | 5 |
| 2025 | H12peat | 3b | *Vaccinium myrtillus* | 35 |
| 2025 | H12peat | 3b | *Galium saxatile* | 5 |
| 2025 | H12peat | 3b | *Festuca ovina* | 2 |
| 2025 | H12peat | 3b | *Nardus stricta* | 10 |
| 2025 | H12peat | 3b | *Agrostis capillaris* | 10 |

| | | | | |
|---|---|---|---|---|
| 2025 | H12peat | 3b | *Rhytidiadelphus squarrosus* | 5 |
| 2025 | H12peat | 3b | *Hypnum jutlandicum* | 5 |
| 2025 | H12peat | 3b | *Avenella flexuosa* | 15 |
| 2025 | H12peat | 3b | *Pleurozium schreberi* | 5 |
| 2025 | H12peat | 3b | *Juncus effusus* | 15 |
| **Year** | **Group** | **Quadrat** | **Species** | **Cover** |
| 2025 | H12peat | 3b | *Empetrum nigrum* | 15 |
| 2025 | H12peat | 3b | *Calluna vulgaris* | 5 |
| 2025 | H12peat | 3b | *Polytrichum commune s.l.* | 5 |
| 2025 | H12peat | 13 | *Vaccinium myrtillus* | 20 |
| 2025 | H12peat | 13 | *Juncus squarrosus* | 2 |
| 2025 | H12peat | 13 | *Festuca ovina* | 1 |
| 2025 | H12peat | 13 | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | H12peat | 13 | *Dicranum scoparium* | 5 |
| 2025 | H12peat | 13 | *Hypnum jutlandicum* | 20 |
| 2025 | H12peat | 13 | *Avenella flexuosa* | 1 |
| 2025 | H12peat | 13 | *Pleurozium schreberi* | 5 |
| 2025 | H12peat | 13 | *Empetrum nigrum* | 25 |
| 2025 | H12peat | 13 | *Calluna vulgaris* | 20 |
| 2025 | H12peat | 13a | *Vaccinium myrtillus* | 15 |
| 2025 | H12peat | 13a | *Juncus squarrosus* | 1 |
| 2025 | H12peat | 13a | *Festuca ovina* | 1 |
| 2025 | H12peat | 13a | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | H12peat | 13a | *Dicranum scoparium* | 2 |
| 2025 | H12peat | 13a | *Hypnum jutlandicum* | 20 |
| 2025 | H12peat | 13a | *Avenella flexuosa* | 1 |
| 2025 | H12peat | 13a | *Pleurozium schreberi* | 5 |
| 2025 | H12peat | 13a | *Empetrum nigrum* | 35 |
| 2025 | H12peat | 13a | *Calluna vulgaris* | 25 |
| 2025 | H12peat | 13a | *Polytrichum juniperinum* | 1 |
| 2025 | Wet Heath quadrat data were analysed together | 9 | *Vaccinium myrtillus* | 5 |
| 2025 | | 9 | *Nardus stricta* | 2 |
| 2025 | | 9 | *Hypnum jutlandicum* | 5 |
| 2025 | | 9 | *Avenella flexuosa* | 1 |
| 2025 | | 9 | *Empetrum nigrum* | 2 |
| 2025 | | 9 | *Calluna vulgaris* | 10 |
| 2025 | | 9 | *Campylopus atrovirens* | 1 |
| 2025 | | 9 | *Polytrichum juniperinum* | 5 |
| 2025 | | 9 | *Eriophorum vaginatum* | 40 |
| 2025 | | 9 | *Eriophorum angustifolium* | 5 |
| 2025 | | 9 | *Molinia caerulea* | 30 |
| 2025 | | 9 | *Sphagnum fimbriatum* | 1 |
| 2025 | | 9 | *Sphagnum denticulatum* | 1 |
| 2025 | | 9a | *Vaccinium myrtillus* | 8 |
| 2025 | | 9a | *Juncus squarrosus* | 1 |
| 2025 | | 9a | *Avenella flexuosa* | 1 |
| 2025 | | 9a | *Empetrum nigrum* | 10 |
| 2025 | | 9a | *Calluna vulgaris* | 10 |
| 2025 | | 9a | *Polytrichum juniperinum* | 5 |
| 2025 | | 9a | *Eriophorum vaginatum* | 20 |

| Year | | Quadrat | Species | Cover |
|---|---|---|---|---|
| 2025 | | 9a | *Eriophorum angustifolium* | 5 |
| 2025 | | 9a | *Molinia caerulea* | 35 |
| 2025 | | 12 | *Vaccinium myrtillus* | 5 |
| 2025 | | 12 | *Juncus squarrosus* | 5 |
| | | | | |
| 2025 | | 12 | *Festuca ovina* | 2 |
| 2025 | | 12 | *Nardus stricta* | 1 |
| 2025 | | 12 | *Agrostis capillaris* | 1 |
| 2025 | | 12 | *Dicranum scoparium* | 1 |
| 2025 | | 12 | *Hypnum jutlandicum* | 1 |
| 2025 | | 12 | *Empetrum nigrum* | 10 |
| 2025 | | 12 | *Calluna vulgaris* | 25 |
| 2025 | | 12 | *Polytrichum juniperinum* | 5 |
| 2025 | | 12 | *Eriophorum vaginatum* | 25 |
| 2025 | | 12 | *Eriophorum angustifolium* | 1 |
| 2025 | | 12 | *Molinia caerulea* | 25 |
| 2025 | | 12 | *Sphagnum fimbriatum* | 1 |
| 2025 | | 12 | *Racomitrium sp.* | 2 |
| 2025 | | 12a | *Vaccinium myrtillus* | 2 |
| 2025 | | 12a | *Festuca ovina* | 1 |
| 2025 | | 12a | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | | 12a | *Dicranum scoparium* | 1 |
| 2025 | | 12a | *Hypnum jutlandicum* | 5 |
| 2025 | | 12a | *Pleurozium schreberi* | 1 |
| 2025 | | 12a | *Empetrum nigrum* | 2 |
| 2025 | | 12a | *Calluna vulgaris* | 20 |
| 2025 | | 12a | *Polytrichum juniperinum* | 5 |
| 2025 | | 12a | *Eriophorum vaginatum* | 25 |
| 2025 | | 12a | *Molinia caerulea* | 10 |
| 2025 | | 12a | *Sphagnum fimbriatum* | 1 |
| 2025 | | 12a | *Racomitrium sp.* | 1 |
| 2025 | | 12a | *Sphagnum denticulatum* | 1 |
| 2025 | | 12c | *Vaccinium myrtillus* | 2 |
| 2025 | | 12c | *Agrostis capillaris* | 1 |
| 2025 | | 12c | *Dicranum scoparium* | 2 |
| 2025 | | 12c | *Hypnum jutlandicum* | 2 |
| 2025 | | 12c | *Avenella flexuosa* | 2 |
| 2025 | | 12c | *Pleurozium schreberi* | 4 |
| 2025 | | 12c | *Calluna vulgaris* | 30 |
| 2025 | | 12c | *Campylopus atrovirens* | 5 |
| 2025 | | 12c | *Polytrichum juniperinum* | 1 |
| 2025 | | 12c | *Eriophorum vaginatum* | 30 |
| 2025 | | 12c | *Eriophorum angustifolium* | 1 |
| 2025 | | 12c | *Molinia caerulea* | 10 |
| 2025 | | 12c | *Racomitrium sp.* | 5 |
| 2025 | H18 dryheath mineral | 11 | *Vaccinium myrtillus* | 40 |
| 2025 | H18 dryheath mineral | 11 | *Juncus squarrosus* | 5 |
| 2025 | H18 dryheath mineral | 11 | *Festuca ovina* | 5 |
| 2025 | H18 dryheath mineral | 11 | *Nardus stricta* | 5 |

| Year | Group | Quadrat | Species | Cover |
|---|---|---|---|---|
| 2025 | H18 dryheath mineral | 11 | *Agrostis capillaris* | 2 |
| 2025 | H18 dryheath mineral | 11 | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | H18 dryheath mineral | 11 | *Avenella flexuosa* | 5 |
| 2025 | H18 dryheath mineral | 11 | *Pleurozium schreberi* | 10 |
| | | | | |
| 2025 | H18 dryheath mineral | 11 | *Empetrum nigrum* | 60 |
| 2025 | H18 dryheath mineral | 11 | *Sorbus aucuparia* | 1 |
| 2025 | H18 dryheath mineral | 8 | *Vaccinium myrtillus* | 65 |
| 2025 | H18 dryheath mineral | 8 | *Galium saxatile* | 2 |
| 2025 | H18 dryheath mineral | 8 | *Juncus squarrosus* | 10 |
| 2025 | H18 dryheath mineral | 8 | *Festuca ovina* | 2 |
| 2025 | H18 dryheath mineral | 8 | *Nardus stricta* | 1 |
| 2025 | H18 dryheath mineral | 8 | *Agrostis capillaris* | 1 |
| 2025 | H18 dryheath mineral | 8 | *Avenella flexuosa* | 10 |
| 2025 | H18 dryheath mineral | 8 | *Empetrum nigrum* | 5 |
| 2025 | H18 dryheath mineral | 8 | *Molinia caerulea* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Vaccinium myrtillus* | 65 |
| 2025 | H18 dryheath mineral | 8a | *Galium saxatile* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Juncus squarrosus* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Festuca ovina* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Nardus stricta* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Agrostis capillaris* | 1 |
| 2025 | H18 dryheath mineral | 8a | *Avenella flexuosa* | 10 |
| 2025 | H18 dryheath mineral | 8a | *Molinia caerulea* | 2 |
| 2025 | H18 dryheath mineral | 8a | *Carex pilulifera* | 1 |
| 2025 | H12peat | 7 | *Vaccinium myrtillus* | 45 |
| 2025 | H12peat | 7 | *Galium saxatile* | 2 |
| 2025 | H12peat | 7 | *Festuca ovina* | 5 |
| 2025 | H12peat | 7 | *Nardus stricta* | 10 |
| 2025 | H12peat | 7 | *Agrostis capillaris* | 1 |
| 2025 | H12peat | 7 | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | H12peat | 7 | *Hypnum jutlandicum* | 2 |
| 2025 | H12peat | 7 | *Deschampsia flexuosa* | 2 |
| 2025 | H12peat | 7 | *Pleurozium schreberi* | 1 |
| 2025 | H12peat | 7 | *Empetrum nigrum* | 25 |
| 2025 | H12peat | 7 | *Calluna vulgaris* | 1 |
| 2025 | H12peat | 7a | *Vaccinium myrtillus* | 45 |
| 2025 | H12peat | 7a | *Galium saxatile* | 2 |
| 2025 | H12peat | 7a | *Juncus squarrosus* | 2 |
| 2025 | H12peat | 7a | *Festuca ovina* | 8 |
| 2025 | H12peat | 7a | *Nardus stricta* | 1 |
| 2025 | H12peat | 7a | *Agrostis capillaris* | 5 |
| 2025 | H12peat | 7a | *Rhytidiadelphus squarrosus* | 1 |
| 2025 | H12peat | 7a | *Hypnum jutlandicum* | 2 |
| 2025 | H12peat | 7a | *Deschampsia flexuosa* | 4 |
| 2025 | H12peat | 7a | *Empetrum nigrum* | 2 |
| 2025 | H12peat | 7a | *Molinia caerulea* | 2 |

Data outputted by MAVIS are contained in **Tables 2 a-g**.

## 4.2 Table 2a: Classification for Quadrats 1 and 1a.

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | U4peat | 1 | U5a | 0.385405 |
| 2025 | U4peat | 1 | U4e | 0.381233 |
| 2025 | U4peat | 1 | U6d | 0.33187 |
| 2025 | U4peat | 1 | U5b | 0.326767 |
| 2025 | U4peat | 1 | U6c | 0.320093 |
| 2025 | U4peat | 1 | U16b | 0.299802 |
| 2025 | U4peat | 1 | U6 | 0.296616 |
| 2025 | U4peat | 1 | U5d | 0.287727 |
| 2025 | U4peat | 1 | U5 | 0.287106 |
| 2025 | U4peat | 1 | U6b | 0.261592 |
| 2025 | U4peat | 1a | U5a | 0.346939 |
| 2025 | U4peat | 1a | U4e | 0.343028 |
| 2025 | U4peat | 1a | U6d | 0.330304 |
| 2025 | U4peat | 1a | U5b | 0.294007 |
| 2025 | U4peat | 1a | U5d | 0.284226 |
| 2025 | U4peat | 1a | U6c | 0.280348 |
| 2025 | U4peat | 1a | U6 | 0.268574 |
| 2025 | U4peat | 1a | U5 | 0.267541 |
| 2025 | U4peat | 1a | U16b | 0.262928 |
| 2025 | U4peat | 1a | U16c | 0.25449 |

## 4.3 Table 2b. Classification for Quadrats 2 and 2a.

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | U4mineral | 2 | U4e | 0.312861 |
| 2025 | U4mineral | 2 | U6d | 0.305307 |
| 2025 | U4mineral | 2 | U5a | 0.283269 |
| 2025 | U4mineral | 2 | U5d | 0.272413 |
| 2025 | U4mineral | 2 | U6c | 0.260638 |
| 2025 | U4mineral | 2 | U5b | 0.244813 |
| 2025 | U4mineral | 2 | U5 | 0.243949 |
| 2025 | U4mineral | 2 | H12c | 0.240819 |
| 2025 | U4mineral | 2 | U16b | 0.238983 |
| 2025 | U4mineral | 2 | U5c | 0.238209 |
| 2025 | U4mineral | 2a | U5a | 0.328362 |
| 2025 | U4mineral | 2a | U4e | 0.323073 |
| 2025 | U4mineral | 2a | U6d | 0.31043 |
| 2025 | U4mineral | 2a | U5b | 0.279828 |
| 2025 | U4mineral | 2a | U5d | 0.268392 |
| 2025 | U4mineral | 2a | U6c | 0.264505 |
| 2025 | U4mineral | 2a | U5 | 0.254133 |
| 2025 | U4mineral | 2a | U6 | 0.252159 |
| 2025 | U4mineral | 2a | U16b | 0.250891 |
| 2025 | U4mineral | 2a | H12c | 0.241917 |

## 4.4 Tabel 2c. Classification for Quadrats 4 and 4a

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | H12mineral | 4 | U4e | 0.382055 |
| 2025 | H12mineral | 4 | U5a | 0.36721 |
| 2025 | H12mineral | 4 | U16b | 0.316464 |
| 2025 | H12mineral | 4 | U5d | 0.314688 |
| 2025 | H12mineral | 4 | U5b | 0.309642 |
| 2025 | H12mineral | 4 | U6c | 0.307519 |
| 2025 | H12mineral | 4 | H12c | 0.296365 |
| 2025 | H12mineral | 4 | U20b | 0.295681 |
| 2025 | H12mineral | 4 | U6d | 0.288734 |
| 2025 | H12mineral | 4 | H18 | 0.28295 |
| 2025 | H12mineral | 4a | U5a | 0.321361 |
| 2025 | H12mineral | 4a | U4e | 0.308119 |
| 2025 | H12mineral | 4a | U6c | 0.271535 |
| 2025 | H12mineral | 4a | U5b | 0.268737 |
| 2025 | H12mineral | 4a | U2b | 0.260029 |
| 2025 | H12mineral | 4a | U5d | 0.25861 |
| 2025 | H12mineral | 4a | U6 | 0.256881 |
| 2025 | H12mineral | 4a | U16b | 0.256377 |
| 2025 | H12mineral | 4a | H8e | 0.251677 |
| 2025 | H12mineral | 4a | U6d | 0.244581 |

## 4.5 Table 2d. Classification for Quadrats 7 and 7a

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | H12peat | 7 | U4e | 0.335646912 |
| 2025 | H12peat | 7 | U5a | 0.335559784 |
| 2025 | H12peat | 7 | H12c | 0.305922774 |
| 2025 | H12peat | 7 | U5d | 0.28646755 |
| 2025 | H12peat | 7 | H8e | 0.275398156 |
| 2025 | H12peat | 7a | U5a | 0.301669134 |
| 2025 | H12peat | 7a | U4e | 0.30084349 |
| 2025 | H12peat | 7a | U6d | 0.277160774 |
| 2025 | H12peat | 7a | U5b | 0.259651473 |
| 2025 | H12peat | 7a | U5d | 0.251931016 |

## 4.6 Table 2e. Classification for Quadrats 11, 8 and 8a

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | H18 dryheath mineral | 11 | U5a | 0.302622 |
| 2025 | H18 dryheath mineral | 11 | U4e | 0.292972 |
| 2025 | H18 dryheath mineral | 11 | U6c | 0.263194 |
| 2025 | H18 dryheath mineral | 11 | U5b | 0.258977 |
| 2025 | H18 dryheath mineral | 11 | U6 | 0.247716 |
| 2025 | H18 dryheath mineral | 11 | U6d | 0.244581 |
| 2025 | H18 dryheath mineral | 11 | U16b | 0.239357 |
| 2025 | H18 dryheath mineral | 11 | U6b | 0.234272 |

| | | | | |
|---|---|---|---|---|
| 2025 | H18 dryheath mineral | 11 | U5 | 0.223339 |
| 2025 | H18 dryheath mineral | 11 | U5d | 0.214005 |
| 2025 | H18 dryheath mineral | 8 | U4e | 0.290598 |
| 2025 | H18 dryheath mineral | 8 | U5a | 0.272774 |
| 2025 | H18 dryheath mineral | 8 | U5d | 0.252454 |
| 2025 | H18 dryheath mineral | 8 | U5b | 0.247877 |
| 2025 | H18 dryheath mineral | 8 | U6d | 0.242829 |
| 2025 | H18 dryheath mineral | 8 | H8e | 0.220893 |
| 2025 | H18 dryheath mineral | 8 | H18c | 0.213274 |
| 2025 | H18 dryheath mineral | 8 | U6 | 0.211851 |
| 2025 | H18 dryheath mineral | 8 | U5 | 0.209095 |
| 2025 | H18 dryheath mineral | 8 | U6c | 0.207739 |
| 2025 | H18 dryheath mineral | 8a | U4e | 0.293545 |
| 2025 | H18 dryheath mineral | 8a | U5a | 0.290355 |
| 2025 | H18 dryheath mineral | 8a | U5b | 0.268386 |
| 2025 | H18 dryheath mineral | 8a | U5d | 0.263769 |
| 2025 | H18 dryheath mineral | 8a | U6d | 0.242829 |
| 2025 | H18 dryheath mineral | 8a | U3 | 0.240438 |
| 2025 | H18 dryheath mineral | 8a | H8e | 0.233275 |
| 2025 | H18 dryheath mineral | 8a | U5 | 0.227173 |
| 2025 | H18 dryheath mineral | 8a | H18c | 0.226488 |
| 2025 | H18 dryheath mineral | 8a | U5e | 0.223864 |

## 4.7 Table 2f. Classification for Quadrats 13, 13a, 3, 3a and 3b.

| Year | Group | Quadrat | NVC Classification | Goodness of Fit |
|---|---|---|---|---|
| 2025 | H12peat | 13 | H12a | 0.294363 |
| 2025 | H12peat | 13 | H12c | 0.2899 |
| 2025 | H12peat | 13 | H12b | 0.281466 |
| 2025 | H12peat | 13 | U6c | 0.269439 |
| 2025 | H12peat | 13 | H12 | 0.266672 |
| 2025 | H12peat | 13a | H12a | 0.278089 |
| 2025 | H12peat | 13a | H12c | 0.276417 |
| 2025 | H12peat | 13a | H12b | 0.267914 |
| 2025 | H12peat | 13a | U6c | 0.255713 |
| 2025 | H12peat | 13a | H12 | 0.253366 |
| 2025 | H12peat | 3 | H12c | 0.295679 |
| 2025 | H12peat | 3 | U4e | 0.266917 |
| 2025 | H12peat | 3 | H12a | 0.260654 |
| 2025 | H12peat | 3 | U16b | 0.260421 |
| 2025 | H12peat | 3 | U20b | 0.257716 |
| 2025 | H12peat | 3a | U4e | 0.300667 |
| 2025 | H12peat | 3a | U5a | 0.281273 |
| 2025 | H12peat | 3a | H12c | 0.277758 |
| 2025 | H12peat | 3a | U2b | 0.261675 |
| 2025 | H12peat | 3a | H8e | 0.246819 |
| 2025 | H12peat | 3b | U5a | 0.325188 |
| 2025 | H12peat | 3b | U4e | 0.318311 |
| 2025 | H12peat | 3b | U5b | 0.293138 |

| | | | | |
|---|---|---|---|---|
| 2025 | H12peat | 3b | U16b | 0.292338 |
| 2025 | H12peat | 3b | H12c | 0.284006 |

## 4.8 Table 2g. Classification of combined Wet Heath quadrats

| Year | NVC Classification | Goodness of Fit |
|---|---|---|
| 2025 | M19a | 0.511278 |
| 2025 | H12a | 0.493197 |
| 2025 | M15d | 0.487145 |
| 2025 | M17c | 0.469667 |
| 2025 | H12 | 0.453579 |
| 2025 | H8e | 0.445205 |
| 2025 | U2b | 0.44405 |
| 2025 | M19 | 0.42641 |
| 2025 | U2 | 0.413923 |
| 2025 | H12b | 0.40568 |