

**Aberystwyth University Biodiversity Plan**

April 2025

Introduction

The Environment (Wales) Act 2016, introduced by the National Assembly for Wales in May 2016, aims to enable the proactive, sustainable and joined-up management of Wales’ natural resources. Central to its implementation is the emphasis on ensuring an integrated approach to managing natural resources in order to achieve long-term sustainability.

For the purposes of the Act, Aberystwyth University is considered a public authority. Section 6(1) of the Environment (Wales) Act 2016 notes that *“A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.”* In accordance with the requirements of Section 6(6) of the Environment (Wales) Act 2016, the following document provides a plan of proposed activities to ensure compliance with the above statement.

Associated Activities

The protection, preservation and enhancement of biodiversity represent critical objectives for Aberystwyth University throughout its activities. The University must acknowledge the broad range of activities and processes included within its operations, and consider and address the effects on biodiversity and ecosystems in the way those activities are undertaken. As such, the University intends for this Plan to apply to a range of activities and projects being undertaken or planned in the area of biodiversity and wider environmental management. The commitment to strengthening biodiversity and associated ecosystems is not only prevalent in the objectives of this Plan, but across other schemes and developments that are being actively pursued by the institution.

Biodiversity Objectives

In respect of the Environment (Wales) Act 2016, the University’s objectives and associated actions to achieve compliance are as follows:

1. **Encourage the inclusion of biodiversity considerations in decision making activities across the institution;**

* Ensure relevant processes include consideration of biodiversity issues during decision making and feasibility stages;
* Development and introduction of an effective Environmental Management System which includes biodiversity considerations and impacts at its core;

1. **Facilitate effective governance and support structures to enable the achievement of the University’s Biodiversity Plan objectives;**

* Embed biodiversity issues and considerations within the activities of the appropriate University governance Committees and Groups;
* Establish clear policies and procedures which provide clear expectations for staff and students in respect of biodiversity;

1. **Improve staff and student awareness and engagement with biodiversity issues;**

* Engage staff and students in biodiversity and environmental awareness activities;
* Develop awareness of biodiversity and ecosystem protection matters through the availability of appropriate training and resources;

1. **Promote the development and (where possible) restoration of wild and natural habitats across the University’s grounds;**

* See appendix I for detailed actions that we will aim to implement where possible/suitable.

1. **Alter maintenance and upkeep processes to reduce the impact of University activities on ecosystems;**

* Consider and adapt maintenance activities, such as grass cutting and hedge trimming, to reduce impact on ecosystems and habitats;
* Increase use of organic and/or environmentally friendly products for grounds maintenance activities;

1. **Protect and encourage the safeguarding of species and habitats found across the institution;**

* Introduce specific preservation arrangements for species known to habit University grounds e.g. bird boxes, bat boxes, etc.;
* Facilitate opportunities for natural habitat creation through and following maintenance and development works (*see Figure 3*);

The consideration and ultimate approval of this plan and its associated objectives by the University Council demonstrates the institution’s senior level commitment to enhancing and preserving biodiversity through its actions and activities.

Associated Objectives

In exercising its responsibilities under this Act, and in pursuit of the above objectives, Aberystwyth University will also seek to align its activities with the primary objectives of the Nature Recovery Action Plan for Wales:

1. Engage and support participation and understanding to **embed biodiversity throughout decision making at all levels**;
2. **Safeguard species and habitats** of principal importance and improving their management;
3. **Increase the resilience of our natural environment** by restoring degraded habitats and habitat creation;
4. **Tackle key pressures** on species and habitats;
5. Improve our **evidence, understanding and monitoring**;
6. Put in place a framework of **governance and support** for delivery.

Review

In accordance with the continual improvement ethos of the University, this plan may be subject to change or amendment at any point during its implementation, and will be regularly reviewed to consider any additional resources published, such as any relevant area statements. The University will also monitor and adapt its practices accordingly in response to any changes in relevant legislation and/or recognised best practices for the promotion and preservation of biodiversity and ecosystems. Any changes to University strategies to which this plan is associated will also prompt a review of its contents.

Aberystwyth University will provide an update in relation to its activities in pursuit of these objectives, which will be published every 2 years .

**Appendix I Conservation Action plan for suitable priority Habitats**

| **Habitat or Feature** | **Examples of Habitat Creation, Restoration, Enhancement Activities** |
| --- | --- |
| Woodland | Tree Planting: Plant native tree species appropriate for the local climate and soil to create new woodlands. This helps restore natural habitats, improve biodiversity, and connect fragmented forests.  Natural Regeneration:  Allow natural processes to regenerate woodland by fencing areas to prevent grazing and allow trees to grow naturally from seeds already in the soil or brought by wildlife.  Woodland Edging: Create or enhance woodland edges by planting a mix of trees, shrubs, and ground flora. Edges are crucial for biodiversity, providing transitional habitats between open land and dense forest.  Coppicing and Pollarding:  Traditional management techniques like coppicing (cutting trees to ground level to encourage new shoots) and pollarding (cutting higher up) enhance woodland structure and biodiversity by promoting habitat diversity.  Deadwood Retention: Leave standing or fallen dead trees to create habitats for invertebrates, fungi, birds, and small mammals. Deadwood plays a critical role in woodland ecosystems.  Understorey Planting: Planting native shrubs like hazel, holly, or hawthorn beneath the tree canopy enhances the woodland’s structural diversity, providing food and shelter for birds and insects.  Wildflower and Ground Flora Planting: Introduce or enhance woodland ground flora, such as bluebells, wood anemones, and ferns, to support pollinators and other wildlife species.  Invasive Species Control: Remove invasive species such as rhododendron or Himalayan balsam that can outcompete native flora, thereby enhancing the health and biodiversity of the woodland.  Creating Glades and Rides: Create open areas (glades) and wide paths (rides) within woodlands to increase light levels, which supports a diverse range of plant species and attracts insects, birds, and mammals. |
| Scrub | Coppicing Scrub: Periodically coppice (cut back) certain areas of scrub to ground level, allowing it to regrow. This management practice creates a diverse age structure, benefiting species that thrive in both young and mature scrub.  Mosaic Management: Maintain a patchwork of scrub interspersed with other habitats like grassland or heathland. This diversity benefits wildlife, as different species use different habitats at various stages of their life cycles.  Grazing Management: Use controlled grazing (with cattle, sheep, or goats) to manage scrub density and prevent the area from becoming overgrown or developing into woodland, keeping the habitat open and varied. |
| Semi improved Grassland | Wildflower Meadow Creation: Establish species-rich wildflower meadows by sowing a mix of native grass and wildflower seeds. This supports pollinators like bees and butterflies, and increases biodiversity by providing habitat for insects, birds, and small mammals.  Reseeding with Native Grasses: Restore degraded grassland by reseeding with native grass species. This helps to re-establish natural plant communities, improve soil structure, and support diverse wildlife.  Hay Meadow Restoration:  Restore traditional hay meadows through late-season mowing and the introduction of seeds from local wildflower-rich meadows. These meadows are critical for supporting pollinators and other wildlife.  Scrub Clearance: Remove invasive scrub or trees encroaching on grasslands to maintain open habitat, which is essential for species that depend on grassland environments. This can help prevent the transition to woodland.  Grazing Management: Introduce or manage grazing by livestock to prevent grassland from becoming overgrown. Different grazing regimes (such as rotational or seasonal grazing) can help create a variety of sward heights, benefiting a wide range of plant and animal species.  Mowing and Hay Cutting: Implement traditional mowing regimes, such as late summer cuts, to allow wildflowers to seed and maintain plant diversity. Leaving areas uncut or mowing at different times creates structural variety in the grassland, which benefits insects, birds, and mammals.  Soil De-compaction and Restoration: Where soil has been compacted due to human activity or heavy machinery, soil aeration techniques (such as spiking or subsoiling) can improve grassland health by promoting better water infiltration and root growth.  Green Hay Strewing: Transfer species-rich hay from a donor site to a degraded grassland site. The green hay contains seeds that can help reintroduce a wide variety of grassland species, improving biodiversity.  Invasive Species Control: Remove invasive non-native species (such as bracken, Japanese knotweed, or Himalayan balsam) that can outcompete native grasses and wildflowers, restoring the ecological balance of the grassland.  Creation of Grazing Exclosures: Set aside areas where grazing is excluded to allow vegetation to recover, which can lead to increased plant diversity and provide habitats for species that thrive in taller or denser grass.  Buffer Strips and Margins: Create or enhance buffer strips around fields or alongside watercourses by planting wildflowers and native grasses. These areas provide habitat for wildlife, reduce soil erosion, and act as ecological corridors for species movement.  Turf Stripping and Topsoil Removal: In nutrient-enriched or degraded grassland, strip away the topsoil to reduce soil fertility, allowing less competitive, species-rich grassland plants to establish and thrive. |
| Acid grassland | Sowing Native Acid Grassland Species: Create new acid grassland by sowing a mix of native acid-tolerant grasses (e.g., sheep’s fescue, common bent, wavy hair-grass) and wildflowers (e.g., heath bedstraw, tormentil) that thrive in low-nutrient, acidic soils. This supports specialized species that depend on acidic environments.  Topsoil Removal (Nutrient Stripping): Restore degraded acid grassland by removing nutrient-rich topsoil. This lowers soil fertility and encourages acid grassland species to re-establish by reducing competition from more aggressive, nutrient-loving plants.  Grazing Management: Introduce or adjust grazing by livestock, such as sheep or hardy cattle, to prevent the encroachment of scrub and maintain the open, short sward characteristic of acid grassland. Controlled grazing helps create a varied sward height, benefiting wildlife like invertebrates and ground-nesting birds.  Scrub and Tree Clearance:  Remove invasive scrub, trees, or bracken that encroach on acid grassland. This prevents the acid grassland from turning into woodland or shrubland, maintaining the open landscape required by many species.  Heathland and Acid Grassland Mosaics: Create mosaics of heathland and acid grassland by managing transitions between the two habitats. This can be achieved by adjusting grazing intensity or selective shrub management, supporting species that use both habitat types.  Acid Grassland Expansion: Expand existing acid grassland by restoring adjacent areas of nutrient-poor soil, using techniques like grazing or topsoil stripping to create suitable conditions for acid-tolerant species to spread naturally.  Bracken Control: Manage bracken, which can outcompete native acid grassland flora. Techniques like mechanical removal, controlled burning, or targeted herbicide application can help reduce bracken cover and promote grassland recovery.  Soil Aeration and De-compaction: In compacted acid grassland, use soil aeration techniques such as spiking to improve water infiltration and root growth, helping to restore the health of the grassland without adding nutrients.  Heather Management: Introduce limited heather cover to acid grassland to create a varied structure and provide additional habitats for species such as invertebrates and reptiles. Managing heather alongside acid grassland can enhance habitat complexity.  Bare Ground Creation: Create patches of bare ground by mechanical disturbance (e.g., light scarification or turf stripping) to promote the regeneration of acid grassland species. Bare ground is also important for certain invertebrates and pioneer plant species.  Invasive Species Removal: Remove invasive species like Rhododendron or non-native grasses that can overwhelm acid grassland ecosystems. This helps preserve the specialized plant communities and wildlife unique to acidic soils.  Reintroduction of Key Species: If species have been lost due to habitat degradation, reintroduce native acid grassland species by transplanting plugs or seeds from nearby acid grassland sites, enhancing biodiversity and restoring ecological balance. |
| Neutral grassland | Wildflower Meadow Creation: Establish species-rich wildflower meadows by sowing a mix of native grass and wildflower seeds. This supports pollinators like bees and butterflies, and increases biodiversity by providing habitat for insects, birds, and small mammals.  Reseeding with Native Grasses: Restore degraded grassland by reseeding with native grass species. This helps to re-establish natural plant communities, improve soil structure, and support diverse wildlife.  Hay Meadow Restoration: Restore traditional hay meadows through late-season mowing and the introduction of seeds from local wildflower-rich meadows. These meadows are critical for supporting pollinators and other wildlife.  Scrub Clearance: Remove invasive scrub or trees encroaching on grasslands to maintain open habitat, which is essential for species that depend on grassland environments. This can help prevent the transition to woodland.  Grazing Management: Introduce or manage grazing by livestock to prevent grassland from becoming overgrown. Different grazing regimes (such as rotational or seasonal grazing) can help create a variety of sward heights, benefiting a wide range of plant and animal species.  Mowing and Hay Cutting: Implement traditional mowing regimes, such as late summer cuts, to allow wildflowers to seed and maintain plant diversity. Leaving areas uncut or mowing at different times creates structural variety in the grassland, which benefits insects, birds, and mammals.  Soil De-compaction and Restoration: Where soil has been compacted due to human activity or heavy machinery, soil aeration techniques (such as spiking or subsoiling) can improve grassland health by promoting better water infiltration and root growth.  Green Hay Strewing: Transfer species-rich hay from a donor site to a degraded grassland site. The green hay contains seeds that can help reintroduce a wide variety of grassland species, improving biodiversity.  Invasive Species Control: Remove invasive non-native species (such as bracken, Japanese knotweed, or Himalayan balsam) that can outcompete native grasses and wildflowers, restoring the ecological balance of the grassland.  Creation of Grazing Exclosures: Set aside areas where grazing is excluded to allow vegetation to recover, which can lead to increased plant diversity and provide habitats for species that thrive in taller or denser grass.  Buffer Strips and Margins:  Create or enhance buffer strips around fields or alongside watercourses by planting wildflowers and native grasses. These areas provide habitat for wildlife, reduce soil erosion, and act as ecological corridors for species movement.  Turf Stripping and Topsoil Removal:  In nutrient-enriched or degraded grassland, strip away the topsoil to reduce soil fertility, allowing less competitive, species-rich grassland plants to establish and thrive. |
| Marsh/marshy grassland | Rewetting and Hydrological Management:  Restoration: Rewetting the land by blocking drainage ditches or reducing water abstraction helps restore the natural hydrology of marshy grassland. This maintains waterlogged conditions necessary for the growth of moisture-loving plants like rushes (Juncus spp.) and sedges (Carex spp.).  Enhancement: Modify existing water management systems to maintain the right water levels throughout the year, enhancing the habitat for wetland species like amphibians, wading birds, and invertebrates.  Creation of Marshy Grassland:  Creation: In areas where natural marshy grassland has been lost, recreate it by adjusting the water table and seeding or planting native wetland species. This can be achieved by selecting low-lying areas prone to flooding or where soils retain water, and reintroducing species such as marsh marigold, meadowsweet, or purple moor-grass.  Control of Invasive Species:  Restoration/Enhancement: Remove invasive species like reed canary grass, Himalayan balsam, or non-native rushes that outcompete native marshy grassland plants. This ensures that native species can re-establish, enhancing the habitat for wildlife.  Grazing Management:  Enhancement/Restoration: Introduce or manage light grazing (using cattle or ponies) to maintain the structure of the grassland. Grazing prevents the habitat from becoming too dominated by tall vegetation or scrub, promoting a mosaic of vegetation heights that benefits birds, small mammals, and invertebrates.  Scrub and Tree Clearance:  Restoration: Remove encroaching scrub or trees that dry out marshy grassland and reduce open areas. This ensures that light levels and soil moisture remain suitable for wetland plants and maintains the habitat's open, waterlogged character.  Species Reintroduction:  Enhancement: Reintroduce plant species that are important for biodiversity but have been lost from the site, such as marsh orchids, ragged-robin, or bogbean. This increases plant diversity, which supports a wider range of insects, amphibians, and birds.  Creation of Wet Features (Ponds and Ditches):  Creation/Enhancement: Dig shallow ponds or create ditches within marshy grassland to create a diversity of wetland features. This can increase habitat heterogeneity, supporting amphibians, dragonflies, and aquatic plants while also benefiting birds like snipe and lapwing revealed to be within 2km of the estate.  Mowing Regimes:  Enhancement: Implement rotational mowing regimes where some areas of the marshy grassland are cut in different seasons to promote plant diversity. Leaving certain areas uncut allows for species like rushes to provide important habitats for breeding birds.  Nutrient Reduction (Turf Stripping/Topsoil Removal):  Restoration: In nutrient-enriched marshy grasslands, strip off topsoil or remove nutrient inputs to reduce soil fertility, encouraging a shift back to more diverse, low-nutrient plant communities. This can restore the balance needed for species such as bog mosses, sedges, and other wetland flora.  Buffer Zone Creation:  Enhancement: Establish buffer zones around marshy grassland to protect it from nutrient runoff, pollution, or disturbance from nearby land uses. These buffer zones can act as transition areas between drier uplands and wetland areas, offering additional habitat for wildlife. |
| Blanket sphagnum bog | Blocking Drainage Ditches (Grip Blocking):  Restoration/Enhancement: Restore the natural hydrology of blanket bogs by blocking drainage ditches, known as "grips," that were often dug to dry out bogs for agriculture or forestry. This raises the water table, re-wets the bog, and helps peat-forming species like Sphagnum moss recover, improving carbon sequestration and habitat for species like golden plover and curlew revealed to be within 2km of the estate.  Reprofiling Eroded Peat Hags:  Restoration: In areas where peat erosion has created "peat hags" (gullies or bare peat faces), restore the bog by re-profiling these areas to more gentle slopes. This reduces erosion, slows water runoff, and encourages the re-colonization of vegetation such as Sphagnum mosses, cotton grasses, and heather.  Reintroducing Peat-forming Vegetation:  Creation/Restoration: Reintroduce key peat-forming species, such as Sphagnum mosses, cotton grasses, and heather, through plug planting or spreading fragments. These species are essential for restoring the blanket bog’s natural structure and function, promoting water retention, carbon storage, and wildlife diversity.  Peat Stabilization with Geotextiles or Heather Bales:  Enhancement/Restoration: Use geotextiles (biodegradable mats) or heather bales to cover and stabilize bare peat areas, preventing further erosion while allowing natural vegetation to re-establish. These methods help to slow water flow, trap sediment, and encourage plant colonization.  Tree and Scrub Removal:  Restoration/Enhancement: Remove trees and scrub (such as conifers, birch, or rhododendron) that may have encroached on the blanket bog due to past land use or climate changes. This prevents drying of the peat and reduces competition for water, allowing peat-forming plants to thrive and the habitat to retain moisture.  Water Retention Features:  Creation/Enhancement: Create small dams or bunds in key locations to hold water within the bog landscape, further aiding in the re-wetting of dried-out areas. This helps to restore the natural hydrological regime of the blanket bog, crucial for maintaining its ecological function.  Controlled Burning (Muirburn) Restrictions:  Enhancement: Implement or enhance management practices to limit or exclude controlled burning on blanket bogs. Reducing burning helps protect peatland vegetation, particularly Sphagnum mosses, and prevents soil drying and erosion, maintaining the carbon sink function of the bog.  Reversing Agricultural Improvements:  Restoration: In areas where blanket bogs have been damaged by agricultural improvements (such as fertilization or reseeding), reduce or cease these practices. Over time, the blanket bog will revert to a more natural state, with native peatland species returning and ecological processes being restored.  Revegetation of Bare Peat with Heather Brash:  Restoration: Spread heather brash (cuttings from healthy bog areas) over bare peat surfaces to provide a seed source and protective layer for regeneration. This practice helps restore vegetation cover and promotes the re-establishment of a healthy bog ecosystem.  Peatland Rewetting for Carbon Sequestration:  Creation/Restoration: Large-scale rewetting of degraded blanket bogs for carbon sequestration can be achieved by blocking ditches, removing drains, and reintroducing peat-forming species. These actions restore the bog’s function as a carbon sink, helping mitigate climate change.  Creation of Buffer Zones:  Enhancement: Establish buffer zones around blanket bogs to protect them from agricultural runoff, forestry activities, or development. Buffer zones help maintain the hydrological integrity of the bog and reduce nutrient inputs that can alter the bog’s natural vegetation. |