

# Ffridd – a habitat on the edge



Working together to give nature a home







Typical fridd in mid Wales showing scattered trees, gorse and bracken.



# Executive summary

This publication promotes the significance of ffridd, or coedcae, as an important component of the Welsh countryside, and aims to raise awareness of its ecological, cultural, and land-use value.

Ffridd is an important historic, cultural and visual landscape, throughout which the evidence of early settlement and land-use is conserved. It has created a haven for wildlife, and opportunities for farming practices of high value for nature.

This habitat provides an ecological link, connecting the lowlands

and uplands, and facilitating the movement of numerous species. Ffridd is vital for a variety of important species, providing essential habitat within which many can complete their life cycles.

Ffridd is threatened, vulnerable to changes in land-use that are driven by the pressure to intensify the production of food, fuel and

timber, at scales that are not sustainable in the margins of our uplands. Appropriate management, increased knowledge and awareness are key in maintaining and protecting this dynamic and diverse habitat, and safeguarding it for future generations.

## Ffridd – the upland fringe

Distinctive, diverse and under threat; the upland fringe is a habitat of veiled depth and character. It's a vital resource for Welsh wildlife, and a unique challenge for land managers.

On the edges of our mountains and moorlands, at the boundary between historically enclosed farmland and unenclosed uplands, and on rocky knolls and steep slopes within enclosed fields, is a distinctive habitat known as ffridd or coedcae. It is an array of irregular and diverse ecological communities, but, essentially, it is 'the upland fringe'.

This transitional zone between the enclosed lowlands and the uplands is incredibly diverse. Because of its variety of vegetation communities and structural features it is of importance for much of Wales'

distinctive wildlife, including a high proportion of protected and priority species. These include the Welsh clearwing moth, birds such as yellowhammers and choughs, and important assemblages of grassland fungi and lichens.

Ffridd also links the lowlands and uplands. It allows increasingly fragmented populations of species such as water voles and adds to move in response to changes in climate and land management.

Ffridd is created as a result of a long history of fluctuating intensity of land management. This has

produced complex vegetation mosaics and a connectivity of habitats (and it's from this that much of the value of ffridd derives. These mosaics exist (and overlap) at widely differing scales, from patch size (sub-metre) to landscape scale (thousands of hectares). Ffridd is, therefore, a habitat assemblage characterised by structural and compositional diversity. When in good condition it is often notably diverse, but more uniform examples (acid grassland or bracken in particular) can also be invaluable for wildlife.

## The social history of the term 'ffridd'

Culturally and historically, ffridd is a vital component of the Welsh landscape.

In Wales, this unique habitat has traditionally been called 'ffridd' or 'coedcae'. These terms have different meanings for different people, making it hard to categorise definitively in a social or biological context.

The origins of the word 'ffridd' come from the Middle English word 'frith', meaning a wood, woodland or wooded countryside. The Welsh 'ffridd' may originally have had a 'woody' connotation, similar to that of the word 'coedcae', meaning wood or trees within a field. The first documented written usage of 'ffridd' in the Welsh language is in the 14th Century.

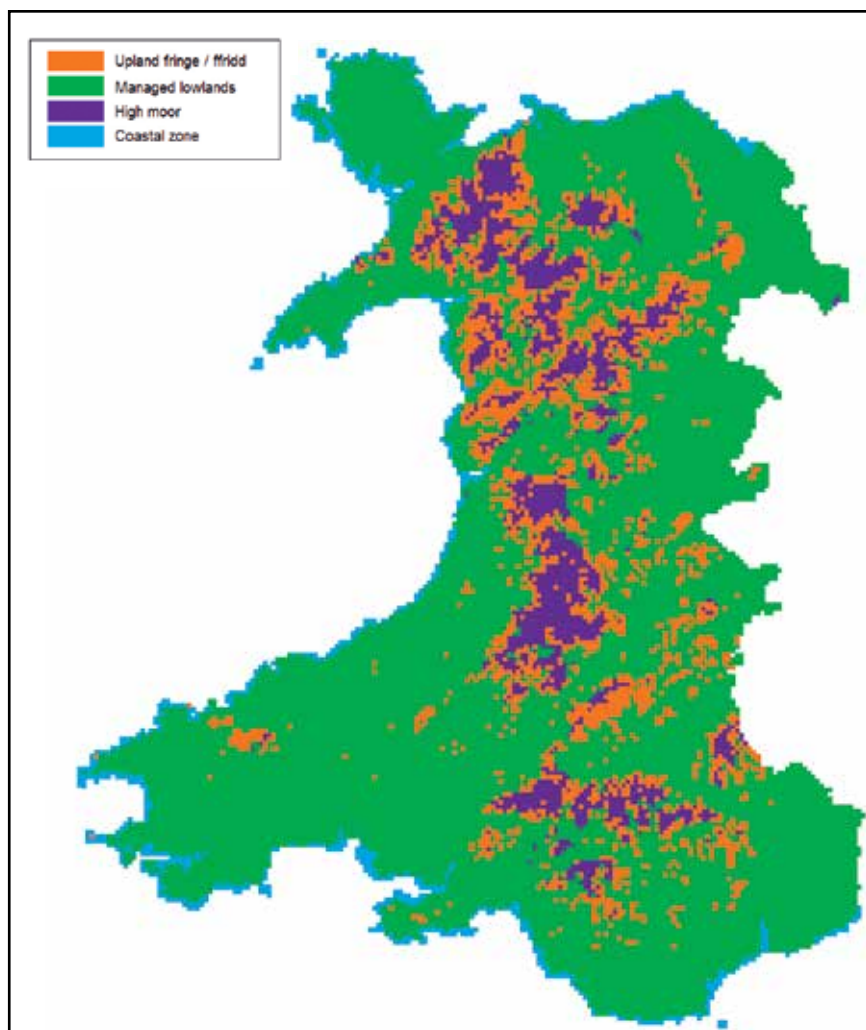
There are significant regional variations in typical location and structure. In north Wales, ffridd refers to unenclosed land, or enclosed land within a large field with a wall or fence surrounding it, close to the

mountain wall. The term 'coedcae' is normally used in south Wales to specifically denote a wooded area.

Over the border in England, words for ffridd include 'frith', 'inbye' and 'intake'. Intake is usually 'land reclaimed from moorland'. This traditionally referred to a parcel of land 'taken in' from a moor and brought under cultivation. The creation of intakes started in medieval times and continued up to the 19th century.

Land use in ffridd has, undoubtedly, always been dynamic. For centuries, changes in the economy of livestock farming influenced the number of animals grazing on the ffridd, and the character of the landscape. Many farmers have traditionally used it as a holding area for livestock, such as cattle in winter, before they are moved onto moorland for summer grazing<sup>1</sup> or as seasonal rough grazing and shelter without the need for shepherding.

## Where is the upland fringe?



Ffridd is a widespread habitat zone, found throughout Wales. It lies between the managed lowlands and the uplands, at altitudes between 100 m and 450 m. Mapping work in the *Habitat Survey of Wales (1979-1997)*<sup>2</sup> recorded the component habitats that contribute to the areas that are widely recognised as ffridd. These have revealed the extensive localities where it can be found across Wales. Ffridd has the highest mean habitat diversity per kilometre square when compared to coastal, lowland and upland landscapes<sup>2</sup>.

**Figure 1.** Distribution of the four main landscape zones in Wales showing 1km squares that contain ffridd<sup>2</sup>.

# Why does ffridd matter?

The inherent challenge of managing the upland margins has created a haven for wildlife.

Ffridd is a habitat of high diversity, and it is the variety of vegetation, communities and structural features that make it so. It is capable of supporting numerous species, and has also been identified as a habitat of high connectivity. This provides a vital role in 'buffering' protected upland sites against habitat intensification, by facilitating the movement of numerous species. Ffridd is a vital component of the landscape, allowing species to adapt to changing conditions by making altitudinal and longitudinal movements, as they seek suitable areas to fulfill their various life-cycles. The importance of this should not be underestimated.

This inherent diversity can provide resilience within the landscape – the capacity to absorb disturbance, re-organize, and keep functioning. In this way, ffridd increases the resilience of important natural areas.

## Wildlife in the margins:

### Birds

Ffridd is a haven for a variety of breeding bird species, such as tree pipits, yellowhammers, linnets, twites and whinchats, because of the mosaics of habitats present. These species have been found to have higher densities in ffridd habitat than in any other part of the landscape<sup>3</sup>. Although no bird species can be considered a 'ffridd specialist', ffridd may be regarded as supporting a unique assemblage of birds.

A mosaic of habitats is one of the defining features of ffridd, but the composition of that mosaic will vary, in turn influencing the composition of local bird assemblages. Ring ouzels and twites both use a mosaic of

heather, bracken, rock outcrops and grass for nesting and foraging. Early in the breeding season, ring ouzels will forage for invertebrates on closely-grazed grassland, and patches of bracken provide them with cover. Later in the season, they feed on rowan berries and haws, so a mosaic of both vegetation type and structure is critical to their breeding success. A greater dominance of gorse and scrub, rather than heather, is more likely to support yellowhammers, which will use the area for nesting and foraging. More open areas of the moorland edge provide valuable foraging opportunities for hen harriers and merlins, which will hunt for key prey species such as meadow pipits. Short grassland and scree are where choughs will focus their foraging for a range of soil and ground invertebrates.



Andy Hay (rspb-images.com)

Ring ouzels forage widely in the ffridd landscape.





**Scarlet waxcaps thrive in species-rich grasslands within ffridd.**

### Fungi

Closely-grazed acid grassland in ffridd provides an important foraging resource for birds such as ring ouzels and wheatears, and it also provides excellent habitat for grassland fungi assemblages. Although survey information is incomplete, available information indicates that ffridd holds a large proportion of species-rich grassland fungi sites. Eight out of the top 10 Welsh grassland fungi sites are found within this zone, and many of the Welsh grassland fungi sites are of international importance<sup>4</sup>.

### Lichens

Ffridd supports significant lichen interest in many parts of Wales, mainly associated with rock habitats (outcrops, boulder & scree). A number of nationally scarce species seem particularly associated with upland fringe of low to middle elevation. These include *Halecania spodomela*, a species that is locally frequent on well-lit boulder slabs in upland fringe throughout Wales. The nationally rare *Protoparmelia atriseda* has the majority of its known sites on hillsides in the upland margins of Wales.

### Butterflies & moths

Ffridd is an important habitat for butterflies and moths. The mosaic of flower-rich open canopy bracken and acid grassland is important for our larger fritillaries, such as the pearl-bordered fritillary and the more widespread dark green fritillary. Flushes and stream sides support the small pearl-bordered fritillary and commoner species such as the orange-tip butterfly. The heathers, bilberry and scattered trees support a wealth of moth species, including the Welsh clearwing, which is dependent on scattered old birch trees.

### Mammals

Even the elusive water vole may be found here. In many areas, water voles have been driven to higher altitudes by mink predation, and areas of slow-flowing water and marshy grassland in the upland fringe provide them with valuable habitat.



**Ffridd provides a mosaic of vegetation structure which is important for butterflies, such as the pearl-bordered fritillary.**

## Vascular plants

Plants that are declining in the wider countryside are often found in ffridd, and indeed are characteristic of this habitat zone. They vary across Wales but typical taxa include principle biodiversity species such as the globe flower, lesser butterfly-orchid, wood bitter-vetch, and bog orchid. Upland races of some species such as the large-fruited hawthorn are also characteristic of ffridd. These may provide an important food source for birds such as ring ouzels.

## Diverse habitats

Upland fringe has a distinctive habitat composition but it also provides unique structural and compositional diversity which is not found anywhere else in the Welsh landscape.

Ffridd primarily supports semi-natural habitats (semi-natural grassland, heath, mire, scrub, woodland, bracken or open water) but it may also contain small areas of improved agricultural land or conifers. Another common component of the upland fringe is wood pasture. The mature trees<sup>5</sup> found in this habitat are a much-overlooked resource. Also of note are the freshwater habitats, ponds and head waters, found in ffridd. These are likely to be important because of their high quality, as they are neither acidified (as in upland freshwater) nor eutrophic (like the majority of lowland examples).



Trevor Dines (Plantlife)

**Ffridd is vital for rare and declining plants such as the lesser butterfly-orchid.**

## Resilience and connectivity

**Ffridd may play an important role in connecting habitats and increasing the resilience of ecosystems to disturbance and change.**

**Resilience:** this is the ability of an ecosystem to withstand and recover from disturbance, and its capacity to survive and adapt so that its biological diversity, natural processes, and provision of ecosystem services are maintained<sup>6</sup>. Diversity (biological, ecological, landscape, social and economic) is seen as key to the resilience of systems, and ffridd is known as a very diverse habitat zone.

**Connectivity:** this is a broad term, and refers to characteristics of the landscape that affect the movement of organisms and of natural processes. Connectivity is fundamental to ecosystem function and adaptability, and a key requirement for resilience<sup>6</sup>. Marginal upland mosaics facilitate animal and plant movements between patches of important habitats within the marginal upland zone, and between the managed lowland zone below and moorland zone above.



(RSPB)

**Typical ffridd within the South Wales valleys.**



# Ffridd in law and policy

A large number of the species and habitats that are characteristic of the ffridd zone are of principal importance for biodiversity conservation (Sections 40 & 42, Natural Environment & Rural Communities (NERC) Act 2006).

The inherent value of ffridd, and the unique community of species that it supports, places a legal duty on all public bodies to maintain both

the extent and the quality of the habitat. This legal requirement is further supported by Regulation 9A of the Conservation of Habitats and Species Regulations 2010. This Regulation transposes into domestic legislation parts of the Birds Directive (jncc.defra.gov.uk/page-1373) that relate to the preservation, maintenance and re-establishment of a sufficient area and diversity of habitat for

all wild birds, and the avoidance of deterioration or pollution of those habitats.

However, mosaics of small areas of these habitats interspersed with unprotected habitats such as bracken often do not receive the recognition, and, therefore, the protection that larger areas of such habitat would have. Yet these diverse mosaics have an extremely high biodiversity value.

## A threatened habitat

With widespread loss of semi-natural vegetation and its net replacement by improved grassland, conifer plantations and development, ffridd is a habitat under threat.

### Fragmented

From a wildlife perspective, the fragmented landscapes of Wales mean that the places where they can thrive in diverse abundance are limited. Habitats that have become increasingly rare and fragmented in the lowlands cover larger areas within the upland fringes. This means that species that depend upon larger areas of semi-natural habitat or particular combinations can find refuge from lowland habitat fragmentation in this distinctive zone.

### Species declines

Long-term changes to grassland ecosystems in marginal upland areas of Britain may have influenced the status of bird populations<sup>7</sup>. Surveys carried out in a sample of upland marginal habitats in Wales, England and southern Scotland found that birds associated with upland fringe suffered significant declines in abundance, based on data from 1968 to 1980. The most seriously declining species were associated with grassland for

nesting and foraging (including skylarks, whinchats, wheatears, linnets and yellowhammers). This compares to those that increased, which were less specialised in their habitat requirements (including wood pigeons, pied wagtails and goldfinches).

### Transformed for agriculture and forestry

'Gwella'r ffriddoedd' is a common phrase to describe the 'improvement of ffridd' and this happened on a massive scale during the peak of the agricultural subsidies era. Large scale scrub removal, drainage of 'rhos' or wet areas of ffridd, and general ploughing up of marginal land, including steep-sided valleys, occurred during this time.

### Poorly monitored and protected

Few areas of ffridd have received statutory protection as Sites of Special Scientific Interest (SSSI). This makes ffridd difficult to protect as a habitat, and has led to a lack of systematic monitoring. In fact, lack of recognition and awareness of ffridd's importance, due to insufficient information, are in themselves a threat.

Tom Marshall (rspb-images.com)



Characteristic birds species such as yellowhammers find refuge in ffridd.



# The challenges in our upland margins

In upland margins, wildlife, farming and woodland management are linked across landscapes and time, creating challenges, but also opportunities, for wildlife and people.

## How do you maintain a dynamic landscape?

Changes in management practices over time have shaped the structure and habitat composition of the upland margins in Wales. A variety of management challenges have emerged, which can impact quite significantly on ffridd if inappropriately applied. However, with careful and sympathetic application, the same management practices can have a positive and enhancing effect.

A lack of grazing or other appropriate management, specifically the loss of sympathetic or suitable cattle grazing, has led to the loss of structural diversity of scrub. Gradually, over time, the important upland fringe mosaic is lost, resulting in hillsides dominated by dense swathes of mature gorse or bracken. Succession inevitably takes over, and these areas revert to woodland. Conversely, overgrazing can prevent regeneration, especially of heath and deciduous woodland elements. Past coniferisation and new planting schemes have replaced valuable scrub mosaics.

Inappropriate burning as agricultural practice can damage scrub quality and encourage the spread of bracken and thick, unpalatable grasses, which in turn can suppress important plant species. It can also cause damage to soil structure and hydrology.

However, prescribed burning can encourage heather regeneration on heather-dominated upland margins, and can open the area up for sympathetic grazing and lead to a better mosaic structure.



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**An example of a small-scale burn within a ffridd landscape, opening up the area for grazing.**



# Conclusion

This report demonstrates the importance of ffridd or coedcae as an important component of the landscapes of Wales, providing crucial habitat for much of our important wildlife. There are many reasons why areas of natural and semi-natural habitat such as ffridd have been lost in the margins of our uplands, but this need not continue. Knowledge, recognition and appropriate management are as vital to nature recovery as they are to sustainable land management.

**Landscapes rich in wildlife are healthy and productive. Ensuring the upland fringe is managed using a diversity of management practices leads to a diversity of wildlife.**

Publicly-funded schemes which promote land management, such as agri-environment schemes, should focus on delivering resilient landscapes rich in a diverse range of species and habitats. This is the fundamental nature of ffridd, and therefore it is a logical focus for scheme options to encourage a greater diversity of habitats on individual farms.

Grant schemes for woodland creation should be focused on areas that are essentially wooded

in character and should seek to restore, connect and enlarge areas of ancient and/or semi-natural woodland. To ensure no wildlife-rich open habitats are lost in the move to increase woodland cover in Wales, these schemes need effective environmental impact assessments. Further, more flexible options should be available for landowners wishing to plant trees, and these should be supported by well-trained advisers.

Natural regeneration, lower density of planting and allowing smaller areas should be supported in appropriate areas to restore coedcae.

**Knowledge and understanding are essential to ensure our natural resources are managed sustainably.**

Research is needed to identify where ffridd habitats are present, as well as where they have been lost, so their management and restoration can be targeted. This knowledge base will also enable the evaluation of proposed land-use changes, so that sound decisions are made and important areas are protected for wildlife and people. Greater understanding of where these important areas are, and their potential to contribute to sustainable land management, will also allow ffridd to be incorporated more effectively into landscape-scale restoration activities.

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**Knowledge, recognition and appropriate management are vital to conserving the ffridd landscape.**





**Ffridd/coedcae in South Wales.**

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**For advice on how to manage your land for the lesser butterfly-orchid, please visit the Plantlife website:**

**[plantlife.org.uk/publications](http://plantlife.org.uk/publications)**



**For further information, please contact:**

**RSPB Cymru**

**Wales Headquarters**

Sutherland House, Castlebridge  
Cowbridge Road East  
Cardiff  
CF11 9AB  
Tel: 029 2035 3000

**North Wales Office**

Uned 14, Llys Castan  
Ffordd Y Parc, Parc Menai  
Bangor  
Gwynedd  
LL57 4FH  
Tel: 01248 672850

[rspb.org.uk](http://rspb.org.uk)