



As a natural habitat for a rich diversity of wildflowers, ferns and woodland plants, limestone pavement is one of Ireland's most treasured landscape features. Limestone pavements are outcrops of rocks, where over millions of years, the surface has been dissolved by rainwater into 'paving blocks'. Globally they are a rare habitat, threatened by extraction for the rock-garden and water-feature trade, and often degraded by poor land management.



Ireland holds the most significant proportion of limestone pavement within the European Union, with 36,000 hectares. The majority occurs in Co Galway and Co Clare, which is home to 'the Burren', meaning bare or stony place. The Burren is Ireland's most famous and extensive limestone area.

Limestone is naturally faulted and cracked. The action of rainwater has dissolved limestone along the cracks, resulting in deep fissures known as grikes, which leave upstanding 'paving blocks' known as clints. Rainwater has also sculpted the surface, producing gutter-like features called runnels, and other formations known as pits and pans. Pans are shallow with an impervious base which holds water, while pits are deep and free-draining.

Despite its barren appearance, limestone pavement is abundant in flora and fauna. The lime-rich rock supports a diverse range of grassland and woodland plants, making the Burren famous worldwide for its unique mix of wild plant life. More than 700 different flowering plants and

ferns have been recorded here, representing about 75 per cent of Irish native flora. Some arctic-alpine species, such as mountain avens, have thrived in the Burren since the ice age. As the climate changed over the past 15,000 years, Mediterranean warmth-loving species – such as maidenhair fern and dense-flowered orchid – now co-exist with these early pioneer plants.

Open limestone pavement also provides an important habitat for animals and birds such as the Irish hare, skylark and wren. A wide range of butterflies and moths occur, including the threatened pearl-bordered fritillary and the Burren green, a moth which is locally abundant in the Burren but unknown elsewhere in Ireland.

Sparse soil and little space for root growth, alongside grazing pressure, often mean that any trees or shrubs present are stunted, dwarfed and bonsai-like. Where livestock grazing is low or absent, shrubs and trees can take root in the shallow soils and grikes, eventually forming scrub and woodland. Under areas of dense hazel, thick carpets of moss grow; the growth of these mosses leads to the formation of new, organic soils.

THREATS TO THE HABITAT

Limestone pavement is a non-renewable resource. Once removed, it is gone forever. Limestone has been extracted for building construction, landscaping and gardening in the UK and Ireland. Damage can arise from car parking, camping, littering, development of infrastructure, the picking of rare and often endangered plant species, traffic congestion at popular sites, the removal of limestone for personal use, and the construction of 'mini-dolmens', which destroys fragile species and habitats.

With regard to animal grazing, there is a fine balance to be struck. Reduced grazing can lead to shading out of rare plants through growth of coarser grasses, shrubs and trees. Increased grazing can damage the ground and remove rare plants. In some areas, farming is being

abandoned, leading to an expansion of scrub and woodland. The use of fertilisers, herbicides and pesticides on limestone pavements leads to an increase in unfavourable plant species and a reduction of exposed rock and rarer species.

WHAT CAN INDIVIDUALS DO TO PROTECT THE HABITAT?

Limestone pavement is often used by landscape gardeners in rockeries and water features. This is unnecessary as there are many alternatives: deep-quarried limestone, slate, granite, sandstone and reconstituted stone are just as good. Resin rocks that have been moulded to look like limestone pavement are also available. Better yet, you can make your own limestone pavement substitute; find the recipe at <http://www.limestone-pavements.org.uk/gardeners.html>.

When visiting limestone pavement areas, leave nothing behind but your shadow! Keep to official walkways and paths, being careful not to damage or move any walls, stones or monuments. Resist the urge to create your own mini-monuments! Do not remove any vegetation, as this is illegal. Take pictures or make drawings instead.

FURTHER INFORMATION

- Limestone Pavement Conservation: www.limestone-pavements.org.uk
- Irish Wildlife Trust: www.iwt.ie
- The Heritage Council: www.heritagecouncil.ie
- National Parks & Wildlife Service: www.npws.ie
- Burrenbeo (virtual guide to the Burren): www.burrenbeo.com
- Burren National Park: www.burrennationalpark.ie
- Burren LIFE (farming for conservation): www.burrenlife.com