

Wildlife of the Peak District National Park

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The Peak District National Park [PDNP Fact Sheet] is at the southern tip of the Pennines where highland and lowland Britain meet. For this reason it has plants and animals which are typical of both the northern mountainous region and also the central and southern area of England. Plant and animal communities are determined mainly by the underlying rocks, [Rocks and Minerals Fact Sheet] the climate and by human management of the land [Farming Fact Sheet].

From the high open moorlands of the Dark Peak and the fertile shale valleys of the South West Peak to the rolling farmland and steep-sided dales of the White Peak, the wildlife of the Peak District is rich and diverse. The Peak District National Park is a specially protected area, valued for its biodiversity, natural beauty, tranquillity, cultural heritage, landscapes and geology. It is of great conservation value [Conservation Fact Sheet], supporting nationally and internationally important habitats and species.

The Peak District is the only place in the world where the Derbyshire feather-moss grows. Just one square metre of this incredibly rare plant exists, in a secret location.

White Peak

A landscape of rolling farmland criss-crossed by drystone walls, the White Peak lies on the region's oldest exposed rock, limestone. Because it is light in colour, the area is called the White Peak. For the most part the soils of the White Peak are derived from loess, a fine silty sediment deposited at the end of the last Ice Age. The White Peak mostly lies less than 350 metres above sea level and consists of plateaux with some hills rising above them, crossed by deep, steep-sided dales.

Most of the land is agriculturally improved to a greater or lesser degree (which means it has had fertiliser or lime added, and/or has been reseeded), but some flower-rich hay meadows survive in places supporting species like lady's bedstraw, yellow rattle, ox-eye daisy and knapweed. Skylarks are widespread and curlews breed in small numbers. Where soils are shallow, especially on crests and steep slopes, occasional flower-rich pastures and calcareous grasslands (where soils are

alkaline) survive. Limited areas of arable land occur in places, and these can be important for brown hares and birds such as lapwing, yellowhammer and, rarely, yellow wagtail. Small shelter-belt plantations provide habitat for more common woodland birds and other animals, and the network of dewponds is particularly important for great crested newts. Road verges may support important relics of formerly more widespread vegetation, ranging from characteristic swathes of meadow cranesbill to patches of heather. A small number of silica sand pits support several important plant species such as club-mosses.

On higher ground, the soils are often poorer and leached (the plant nutrients are washed out of the soil), giving rise to acid grassland and heath. These habitats were once widespread across much of the limestone plateau. Above 350 metres the cooler climate favours the development of peaty topsoils and ironpans which slow drainage and so limit the agricultural potential of the land. In places a few small relics of the original limestone heath, which covered much of the plateau until the land was enclosed and divided into fields in the 18th and early 19th centuries, survive. More commonly, patches of

hilltop rough grazing land support acid grassland along with species such as mountain pansy and bilberry.

On the steeper slopes of the dales and around the edge of the limestone plateau the shallow soils are rich in organic matter. Early purple orchids, cowslips, wood anemones, rockrose, wild thyme and an abundance of other lime-loving plants thrive here, with a correspondingly rich insect life. On deeper soils in the dales neutral species-rich grassland is widespread, and on ungrazed or lightly grazed north-facing slopes a particular type of grassland rich in tall herbs such as valerian and ferns has developed very locally and provides the British stronghold for the elegant Jacob's ladder. Towards the top of the slopes, where loess has washed down from the plateau above, more acid grassland often occurs. Limestone cliffs and scree are a common feature throughout the dales. They provide nesting sites for birds such as raven, and are important for mosses, liverworts and lichens, and specialised invertebrates.

The limestone dales of the White Peak are a stronghold for the rare Appleyard's feather-moss which grows at the foot of limestone cliffs under low overhangs.

SEMI-NATURAL WOODLAND

Semi-natural ash woodland, much of it ancient, clothes many dalesides. Wych elm and hazel are found here, and the ground flora is very varied with ramsons (wild garlic) often covering the heavier soils on lower slopes, and dog's mercury and woodland grasses dominating shallower soils and stony ground on the higher slopes. These woodlands support a large number of rare plants and invertebrates. Typical bird species include marsh tit, redstart and a variety of warblers.

Areas of scrub are also widespread. Hazel scrub is particularly important for plants such as globeflower, and for butterflies such as the dark green fritillary. Hazel woodlands are also important habitats for dormice which are believed to have died out in the Peak District in the 20th century. There have been several reintroductions of dormice to

the Peak District since 2002.

Many dales are dry, but others have streams or trout rivers such as the Wye and Dove [Dovedale Fact Sheet]. Beds of water-crowfoot are typical of permanent watercourses, whilst reed canary grass is common along the edges. There are often large beds of butterbur along ungrazed riverbanks. In a few places springs emerge on the lower dalesides, giving rise to 'flushes' (where water emerges at the joints of gritstone and shale). These are often the last stronghold for sphagnum moss and are rich in sedges and other plants, such as bog asphodel, cranberry, marsh thistle and marsh pennywort, and with important invertebrate communities.

LEAD MINES AND QUARRIES

Lead mining has had an important influence across much of the White Peak. Old spoil heaps support a variety

of grassland types including specialised plant communities characterised by species such as spring sandwort ('leadwort') which can grow in the contaminated soil around some lead mines. Some waste heaps have leached soil and yellow mountain pansy often grows here. Lead mine shafts and natural caves can be important hibernation roosts for various types of bat.

Old limestone quarries often develop plant communities similar to limestone grassland and cliffs. The very poor soil means there is little danger of coarse vegetation crowding out very fine plants such as fairy flax, eyebright and autumn gentian. Quarries are often good places to see orchids whose seeds are blown in and become established on bare ground.

Dark Peak

The Dark Peak is a sparsely settled area of gritstone uplands, forming a horseshoe shape around the White Peak. The area comprises an extensive upland plateau with steep gritstone slopes, sometimes with rocky edges that drop away to lower lying slopes, wooded ravines ('cloughs') and deep shale valleys, some of which have been flooded to create large reservoirs. It contrasts sharply with the adjoining limestone plateaux of the White Peak. The dark hues created in the landscape by the peat moors and exposed gritstone explain its name.

Three-quarters of the world's heather moorland is in the UK, with a small but important proportion (19,000 hectares) in the Peak District. It is of global ecological importance, with many rare and endangered plant and animal species.

LEAD MINES AND QUARRIES

The water in the reservoirs is

acidic and, except for wildfowl, they support little wildlife although in some places common sandpipers breed along the shorelines in summer. The drawdown zones (the area on the shore between the highest and lowest water levels) can be of importance for plants such as mudwort and shoreweed. In some reservoirs trout are introduced for anglers. Streams feeding the reservoirs often provide foraging habitat for grey wagtails and dippers.

The soil in the shale valleys is less acid and more fertile than on the gritstone uplands. The valleys are also less exposed, with a milder climate and better agricultural soil. Most lower and flatter land has been improved by fertilising, reseeding etc, and has less wildlife interest. Positive management for wildlife is encouraged in these areas through agri-environment schemes.

PLANTATIONS AND WOODLANDS

Conifer plantations are often, though not exclusively, associated with reservoir valley sides, and may have patches of semi-natural woodland or broadleaf plantation within them. Apart from fungi, the plantlife tends to be limited. Several birds of note are associated with the plantations, such as goshawk,

crossbill and goldcrest.

Sessile oak woodlands are rare survivors of the woodland which once covered the landscape. In most areas, grazing has prevented young trees growing, so the remaining semi-natural woods are now protected from grazing to allow regrowth. Other trees in the woodland are birch and rowan. The woodland floor often has a rich flora with bilberry, cowberry, wavy hair grass, woodrush, ferns, mosses and lichens (mosses and lichens also grow on trees). Woodland birds may include the pied flycatcher and the green woodpecker.

MOORLANDS

For the most part the soils of the Dark Peak are poor and a substantial area is covered in blanket peat. Semi-natural vegetation is a key characteristic of many Dark Peak landscapes, especially on the open moors and moorland slopes, where there are extensive areas of blanket bog, heather and grass moorland. Large tracts of blanket bog on deep peat cover much of the highest plateaux of the Dark Peak. These blanket bogs support breeding birds such as the golden plover and the dunlin.

Peat bog developed during periods of heavy rainfall,

particularly from around 600 BCE. Peat is the remains of vegetation, such as sphagnum mosses, which have been prevented from decaying because of acidity and lack of oxygen. The sphagnum moss has nearly disappeared as a result of acid rain since the Industrial Revolution. Cottongrass (a type of sedge) has taken its place, often with heather or with bilberry and crowberry. Cloudberry (a member of the blackberry family) can be seen in a few places.

Natural erosion has been greatly exacerbated by human influences such as air pollution, heavy grazing, fire and drainage, resulting in an extensive network of peat gullies or groughs and, in the most degraded areas, bare peat and peat 'haggs' (islands of peat left when most has eroded away). Restoration work to re-establish the moorland vegetation and rebuild or reroute footpaths is being carried out by **Moors for the Future**.

On the lower moorland slopes heather dominates, with varying amounts of bilberry, cowberry and crowberry. These upland heaths support birds such as red grouse, meadow pipit, curlew, merlin and short-eared owl. Acid flushes have developed locally, with carpets of sphagnum moss, sedges and rushes, along with plants such as cranberry, bog asphodel and sundew.

Where the moorland is managed for grouse there are large tracts of heather. Management for grouse means winter burning of small strips in rotation to encourage new

growth of heather which is their main food (and is also eaten by sheep in winter). Grouse nest and roost in the tall old heather, as do some birds of prey such as hen harrier and merlin. Heavy grazing by sheep removes the heather which is replaced by mat grass. Wetter land is usually covered with purple moor grass and cross-leaved heather. Bracken grows in areas of more fertile soil and is used by birds such as whinchat, twite and ring ouzel.

Mountain hares, introduced in the late 19th century, are commonly seen throughout the moors. In former moorland landscapes such as Rushup Edge, where much of the land has now been enclosed and heavily grazed, the heathland has been replaced by rough grazing land dominated by grasses such as mat grass or wavy hair grass, with areas of bracken. Relic moorland species such as bilberry may be present in the sward.

Fast flowing streams have created deeply cut cloughs and valleys whose sides are clothed with bilberry, acid grassland and bracken. The numerous flushes and springs arising at the junctions of gritstone and shale on clough sides support varied plant communities whose species composition varies according to water chemistry. The banks of clough streams and upland rivers support small numbers of dipper, grey wagtail and common sandpiper, whilst wet streamside shale crags are often rich in mosses, liverworts, ferns and insect life. There are patches of sessile oak woodland on some cloughs and moorland

slopes. Associated species include birch, holly and hazel, with dog's mercury and yellow archangel on the woodland floor. Characteristic birds include the pied flycatcher, redstart and wood warbler.

GRITSTONE EDGES

Peregrine, raven and ring ouzel breed on some crags.

The gritstone edges may have ledges that sheep cannot reach. Luxuriant bilberry, heather and other plants grow here, as well as trees such as rowan. The edges are very popular with climbers and this has caused erosion of the vegetation along with some disturbance to breeding birds that use this habitat. The Peak District National Park Authority is working with climbing groups to reduce the impacts.

LOWER VALLEYS

The lower valley slopes support some unimproved pastures and hay meadows. The former typically comprise acid grassland dominated by fescues and bents, with herbs such as tormentil and heath bedstraw and patches of gorse and bracken. The hay meadows have a range of flora such as yellow rattle, knapweed, great burnet, bird's foot trefoil and common cat's ear. On less well drained land, the pastures often support soft rush and can provide a breeding ground for wading birds, notably lapwing, curlew and snipe.

South West Peak

The South West Peak is an area of upland and associated foothills in the south-west part of the Peak District National Park. It is a mosaic of moorland, woodland, gritstone edges and tors, valleys and meadows. The high moorland is dominated by exposed blanket bog and dry heath with gritstone walls enclosing large areas of land crossed by ancient transport routes. Scattered gritstone farmsteads, occasional villages and smaller field systems bounded by walls and hedgerows characterise the lowland valleys and slopes, creating a pastoral landscape.

Gritstone underlies the moorland landscape while shale forms the base for the lowland valleys. The gritstone has been strongly folded in the South West Peak, creating rocky edges and steep slopes. Coal measures have been exposed in some places, such as the Goyt Valley

[Goyt Valley Fact Sheet].

With a rainfall of more than 140 centimetres a year, Axe Edge is one of the major watersheds in England. Axe Edge Moor is the source of five rivers – the Dove, Manifold, Goyt, Dane and Wye. The rivers and their tributaries cut steep sided rocky cloughs through the upland landscape which broaden into lowland valleys.

MOORLAND

The high altitude and heavy rainfall on the moorland hills has created acidic soils dominated by moorland vegetation. On the high moorland plateau of Axe Edge and parts of Goyt's Moss in the north, large areas are covered by blanket bog. The peat, which is between 0.5 and 2 metres thick, developed during the last 10,000 years, with the maximum growth during a warmer period, 8,000 to 6,500 years ago. Clearance of the landscape by prehistoric farmers and the introduction of grazing animals also played their part. The blanket bogs are characterised by cottongrasses with patches of heather, bilberry and crowberry. They

support breeding birds such as the golden plover. On the lower moors, dry heath is the characteristic habitat with a mixture of dwarf shrubs, especially bilberry and heather. In areas managed for grouse shooting the heath is dominated by heather. These upland heaths support birds such as red grouse, curlew, merlin and short-eared owl.

Where the moorlands have been enclosed and heavily grazed, acid grassland is more common. This is particularly characteristic of the Cheshire hills in the north-west, such as Shutlingsloe, Midgley and Birchenough Hills, Bosley Minn and Sponds Hill. A range of types of acid grassland can be found, with sheep's fescue, common bent and mat grass dominating better-drained slopes. Other grasslands dominated by purple moor grass occur in wetter areas, with extensive examples at Lyme Park. Bracken beds are frequent features of the acid grassland, particularly on dry slopes. The acid grasslands support a range of bird species including curlew, snipe and skylark.

GRITSTONE EDGES

Gritstone edges and tors are locally important features of the open moors, most notably along the prominent ridges of The Roaches and Ramshaw Rocks, and there are also outcrops of gritstone on steep clough sides. The exposed rock provides important habitats for lichens and ferns. The rocky outcrops support breeding birds including raven and small numbers of ring ouzel, with wheatear and winchat on the slopes below. Small patches of willow scrub occur locally in wetter areas on the lower moors, and support a rich flora.

WOODLAND

The steep sided cloughs that cut through the landscape are often characterised by scattered trees or linear woodland. Woodlands are also found in blocks on the slopes in the west of the area and tend to be oak dominated, with some downy birch, silver

birch and rowan. Holly and hazel are found in the under storey in the more lowland woodlands. The ground flora includes wavy hair grass and bilberry. On mineral-rich soils on the lower slopes, a more diverse flora is found with ash in the canopy and a rich ground flora including ramsons, wood anemone and bluebell. Alder occurs along streams. The woodlands support breeding redstart, tree pipit, wood warbler, lesser spotted woodpecker and pied flycatcher. There are also large plantation woodlands in the Goyt Valley [Goyt Valley Fact Sheet] and Macclesfield Forest.

LOWER VALLEYS

In the enclosed farmlands on lower slopes and valleys, there is a strong pastoral character which includes some areas of interesting neutral grasslands. Wet rush-pasture with soft rush and Yorkshire fog is particularly widespread, and is important for ground-nesting waders such

as curlew, snipe and lapwing. Many areas of pasture have been reseeded and are managed intensively for silage production so unimproved grasslands and hay meadows are relatively rare.

The meadows have a range of grasses mixed with ox-eye daisy and knapweed, as well as species typical of more northerly meadows such as great burnet and lady's mantle. Acid pastures can support a rich flora including local species such as moonwort and mountain pansy. Fields are often enclosed by hedgerows on the lower slopes, including some mixed species hedgerows with holly.

Many upland streams with rocky beds rise on the moorland edge, some rich with mosses and lichens. The streams broaden as they reach the lower slopes and are often lined with alder. In places large reservoirs are associated with marshes around inlet streams supporting various rushes, tufted hair grass, marsh bedstraw and water mint.

Protecting the Peak District's wildlife

There are 54 Sites of Special Scientific Interest (SSSIs) designated by **Natural England** for their national importance for wildlife or geology [Rocks and Minerals Fact Sheet] and covering just over 50,000 hectares (35%) of the National Park. Natural England seeks agreements with land owners for SSSIs to be managed to conserve [Conservation Fact Sheet] their special qualities. The main threats to moorland SSSIs are overgrazing, fires and air pollution. Climate change is also starting to have an impact, especially in moorland areas.

Most of the SSSIs have added protection as Natura 2000 sites. The Natura 2000 network

applies to Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), established under the EU Birds Directive and Habitats Directive respectively. The Peak District has one SPA, the Peak District Moors (44,842 hectares), and two SACs, the South Pennine Moors (43,642 hectares) and the Peak District Dales (2,160 hectares).

The Peak District National Park also has three National Nature Reserves, Dovedale [Dovedale Fact Sheet] which includes Biggin Dale, Derbyshire Dales which consists of five limestone dales (Cressbrook, Lathkill, Hay, Long and Monk's) and the plateau of Kinder Scout.

The Environmental Stewardship Scheme (ESS), which encourages farmers and other land owners to conserve ecologically important land, covers 69% of the Peak District National Park. It offers two

tiers of support, entry level and higher level. An upland level is being introduced in July 2010, replacing the Hill Farm Allowance Scheme. The ESS replaces the Environmentally Sensitive Areas Scheme and the Countryside Stewardship Scheme.

The Environmental Enhancement Scheme is a grant scheme run by the Peak District National Park Authority to encourage farmers to retain unimproved fields, restore ponds and maintain drystone walls and hedges. Under the **Peak District Local Biodiversity Action Plan** 15 habitat and seven species action plans have been prepared for those habitats and species at greatest risk. At-risk species include curlew, lapwing, white-clawed crayfish, water vole and Derbyshire feather-moss. Habitats at risk include limestone dales, lead rakes, **hay meadows** and blanket bog.

Further information

- **Peak District Landscape Character Assessment**
- **Biodiversity in the Peak District National Park**
- **Moors for the Future**