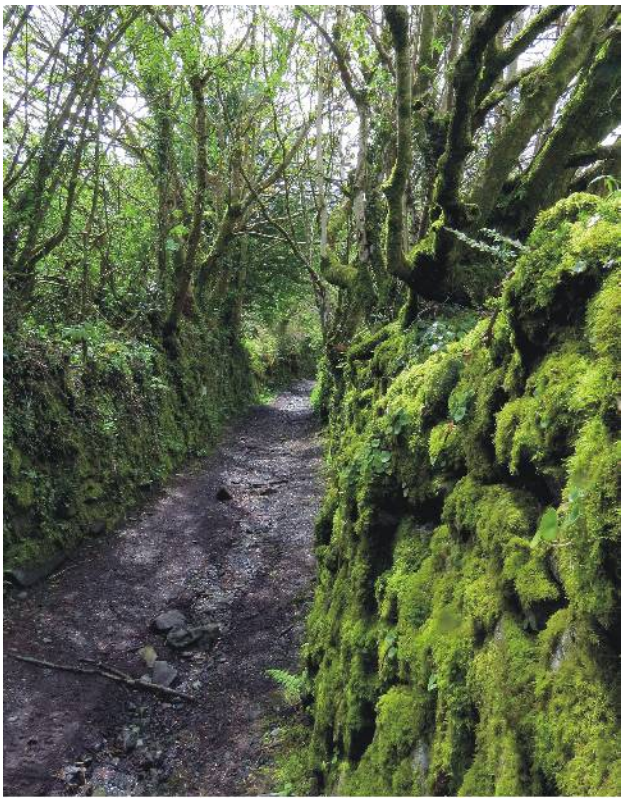
Devon hedges and wildlife 1:
general description and conservation significance

Devon's hedges are of tremendous importance for wildlife (biodiversity). Indeed, they are the most common and widely distributed wildlife habitat in Devon, forming a dense web across all but the highest ground in the county. This section presents an overview of the wildlife of Devon's hedges, highlighting features of particular conservation significance. Other sections provide more information on the flowers and other wildlife of banks, margins and ditches, with one focusing on dormice and another on hedgerow trees.

Nearly all hedges in Devon outside gardens and urban places consist largely of native shrubs and trees. As such they are recognised under English law as a Habitat of Principal Importance for the conservation of biodiversity (Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006).



Shaded stone faced hedgebanks often have luxuriant growths of mosses and ferns and plants like navelwort (below). Photo ©Robert Wolton, Drawing ©Heather Harley

General description

Most of our hedges have a species-rich shrub layer (that is, they support five or more native woody species in a 30 metre length), and the majority are ancient, as is shown by often abundant displays of plants typical of ancient woodland such as bluebells, ransoms (wild garlic) and dog's mercury. Although ancient species-rich hedges usually support the greatest wildlife interest, even single species hedges are valuable. For example, redstarts breed in holes in the hedge beech trees of Exmoor and Dartmoor.

The sides of banks are often covered with a luxuriant and diverse range of ferns and flowering plants, while the woody stems and fallen twigs and branches at the bottom of the hedge are clothed in mosses and liverworts. Banks and ditches together provide a haven for grass snakes, common lizards, slow worms and even, where sufficiently moist and shaded, for frogs, toads and newts. It is here that mammals like hedgehogs, stoats and weasels, and badgers often seek their prey. Banks are also favoured places for bumblebees both to nest and hibernate in. Hedge margins can be full of flowers and tussocky grasses, both hugely important for wildlife.

The shrub layer itself is where most of our smaller birds nest, like song thrush, yellowhammer, whitethroat, bullfinch and dunnock (hedge sparrow). Where hedges have grown into lines of trees, or where isolated trees have grown to maturity, these trees can support rich lichen communities and places for larger birds like buzzards and rooks to nest. If the trees have veteran features like rot holes and splits, they are especially valuable for wildlife, including many rarities.

In summary, the shrubs, trees, banks, ditches and margins that are all parts of a true Devon hedge provide:

- Habitat for mosses, ferns and flowering plants, as well as fungi and lichens.
- Places for animals to breed, for example for insect larvae to develop or birds to nest.
- Food for animals, whether it be leaves for caterpillars, berries for birds, nectar for bees, or decaying wood for many insects.
- Shelter from harsh weather or predators.
- A movement corridor through the landscape, making it easier either to disperse or to commute between breeding sites and food sources.

The diversity of life

Hedges are important for a huge range of wildlife including plants, fungi and a great many animals such as insects, reptiles, birds and mammals. Over 2,000 species big enough to be seen with the naked eye have been found in a single (90 m) representative lane-side Devon hedge, with perhaps another 1,000 yet to be identified. This number includes many species that are threatened, rare or scarce in the UK. A remarkable 12% of all insect species recorded in the British Isles probably benefit from this single hedge in one way another. The network across Devon will support many more.

Brown hairstreak butterfly. ©Robert Wolton

Species of conservation concern

49 Species of Principal Importance under S41 of the NERC Act are known to be significantly associated with Devon hedges (excluding moths). Populations of these species would decline or even disappear if we lost our hedges. The following are of particular significance:

Plymouth pear

First discovered in Plymouth in 1865, this shrubby wild pear is confined to a few hedges within the city and to a few sites in Cornwall.

Brown hairstreak butterfly

This butterfly has declined hugely across England and Wales in recent decades but is still found in many parts of Devon. It is strongly associated with hedges, where it lays its eggs on blackthorn shoots. It chooses only young shoots, and so is very susceptible to hedge trimming: it is thought that many populations have been lost through annual cutting. Farmers wishing to create the right breeding conditions for brown hairstreaks should aim to trim their hedges on a three year rotation, only cutting a third of hedges in any one year.

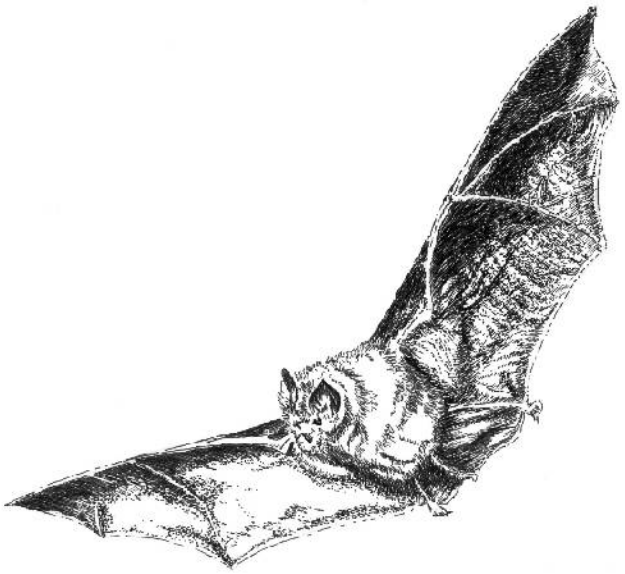
Cirl bunting

This is, quite simply, Devon's special bird and one which relies heavily on hedges and field margins. Once widespread, its range had contracted by the 1990s to just south Devon. Here targeted conservation efforts, led by the RSPB working with many skilled and enthusiastic farmers, have resulted in an expanding population which is starting to spread into east Devon and east Cornwall - a real conservation success story. A sparrow-sized bunting, it inhabits farmland with a mixture of small arable and grassland fields, nesting in bushy hedges and feeding on invertebrates in grazed pasture in summer and seeds, particularly from weedy stubbles, in winter.

Cirl bunting. ©Tom Wallis

Greater horseshoe bat

Devon is a European stronghold for this rare bat, with several large nursery roosts scattered across the county. Although they use buildings and caves for breeding and hibernation, hedges are of great importance to them as flyways to and from their feeding grounds and, together with cattle-grazed pastures, as a source of the beetles and moths on which they prey. Farmers and wildlife groups have worked closely together over many years to support the restoration of hedge networks and wildlife-rich grazed pastures to provide abundant and accessible food for foraging bats. Greater horseshoe bats are a European Protected Species under the EU Habitats Directive, so they and their habitats are afforded the highest level of protection.



Greater horseshoe bats rely on hedges as flyways and an important source of insect prey. ©Heather Harley

Hazel dormouse

Dormice are really creatures of woodland edge and scrub so Devon's hedges make ideal habitat for them, supporting strong populations. They prefer dense bushy hedges since these provide safe nesting conditions - dormice spend most of their lives asleep! Hedges with plenty of thorny or prickly species like blackthorn, holly, gorse, wild rose and bramble are particularly favoured.

Dormice feed on a wide range of food including insects, flowers and fruits. Farms with hedges at different growth stages are likely to provide all the resources dormice need. The hazel dormouse is another European Protected Species and Devon is a national stronghold for it. The separate *Dormice* section (page 38) gives much more information.

Devon whitebeam

Although not a national priority species, this tree is worthy of special mention. It is found nowhere else in the world other than the British Isles, with its main population here in Devon! Growing along woodland and cliff edges and in hedges, it's an attractive species with silvery leaves, sprays of white flowers and large edible ochre berries.

Devon whitebeam berries. ©Robert Wolton

There are myriads of other species of conservation concern, either at national or local level, which occur in Devon's hedges. A few examples include rapidly declining birds like song thrush, linnet, dunnock (hedge sparrow) and yellowhammer; plants like bastard balm and purple ramping fumitory; lichens such as southern grey physcia; and mammals like hedgehog, harvest mouse, and many species of bat. Even the primrose, so characteristic of roadside hedges in the spring, is in decline.

Which hedges are best for wildlife?

The main factors which influence the wildlife value of any particular hedge are outlined below. Guidance on how to maintain and restore banks, on how to trim, steep (lay) or coppice hedges, and on how to look after hedgerow trees, margins and ditches is provided in other sections.

Bushy hedges with good banks, mature trees and flower-rich margins are optimal for wildlife. Associated ditches are an added bonus. ©Robert Wolton

A Devon hedgebank in flower. ©Tom Hynes

Hedge structure and size

The physical structure of the true Devon hedge, with its earth bank, associated ditch and grassy margin, its wide range of shrubs and the frequent occurrence of hedgerow trees, provides a huge variety of conditions suitable for species of grassland, woodland, tree and wetland environments. Looking after all the various structural parts of a hedge, not just the shrubs, will bring real dividends for wildlife. Farms with a wide range of different sized hedges, at different stages of management, will support most wildlife, since some species prefer tall hedges and others short hedges.

Age and shrub diversity

The considerable antiquity of many of Devon's hedges has allowed a rich diversity of shrub and tree species to become established, with a corresponding diversity of life. Hedges with a mix of trees and shrubs, and flower-rich margins, give continuous and varied food supplies throughout the year, from nectar and pollen-rich flowers in the spring to the seeds and berries of the autumn. It is always worthwhile using a range of native and locally occurring shrubs when gapping-up an existing hedge or planting a new one.

Bank sides, ditches and field margins

During the spring months the most attractive part of a hedge is often the sides of its banks, adorned by the red, white and blue of campion, stitchwort and bluebell. These flowers, and those growing in margins and along ditch edges, are very important nectar and pollen sources for insects, including pollinators like bees and hoverflies, as well as providing seeds for birds in the autumn and winter. Any stone facing provides further habitat with plants like navelwort, hart's-tongue fern and stonecrop, or rich lichen communities.

The stands of cow parsley, hogweed and other tall umbellifers, often found along road verges, are especially important. Grass tussocks may seem boring, but are critical overwintering sites for many insects and spiders, including those that move out into crops during the summer to prey on pests like aphids.

The water, damp soil and decomposing vegetation in ditches are the source of huge numbers of small insects like non-biting midges upon which other animals feed, as well as providing a home and food for frogs, newts and grass snakes. All this interest can easily be lost through shade cast by unmanaged shrubs and trees, through fertilizer or spray drift or intensive grazing, or by cultivation too close to the hedge.

Hedgerow trees

These trees, especially old ones with spreading canopies, bring wildlife benefits out of all proportion to the area they occupy. They produce the largest crops of fruits and seeds, and act as beacons in the landscape around which insects congregate to find mates and shelter from inclement weather. Birds like swallows and flycatchers, and bats too, follow the insects. The trunks of old trees can support rare lichens, while hollows and rot holes provide safe sites for bats to roost and birds to nest, as well as places for the larvae of many, often rare, insects to develop.

Well connected networks of hedges and other farmland habitats make it much easier for many small birds and bats, and many other animals, to move freely and safely across the countryside. ©Robert Wolton

Devon has too few young trees at present to replace existing mature ones when they die, so looking after mature specimens and encouraging the development of new ones, including fruit trees like crab apples, is very worthwhile.

Connectivity

Breaks in the hedge network make it difficult for many animals to move freely across the landscape. Neither small bats like pipistrelles nor dormice, for example, like crossing even quite small gaps. The same is true for foraging bumblebees. Planting new hedges to fill in gaps in the network and encouraging structural diversity across the farm will be highly beneficial for wildlife. Hedges on either side of tracks and lanes can be especially valuable.

Further information

1. For current sources of hedge management advice, see the Devon Hedge Group's web pages at **www.devon.gov.uk/hedges**
2. For general advice on hedge management see Hedgelink's website **www.hedgelink.org.uk** A series of leaflets on managing hedges for different species can be found here, together with one which presents 12 top management principles - *The Complete Hedge Good Management Guide* (2013).
3. Wolton, R.J. & Vergette, M. 2012. The diversity of life in a single hedge. pp. 98-104. In Dover, J.W. (Ed.) *Hedgerow Futures.* Proceedings of the first International Hedgelink Conference, September 2012, Stoke-on-Trent.
4. Wolton, R.J., Bentley, H., Chandler, P.J., Drake, C.M., Kramer, J., Plant, A.R. & Stubbs, A.E. 2014. The diversity of Diptera associated with a British hedge. *Dipterists Digest* 21, 1-36.