

Species-rich hedges

1. A Definition

The characteristic hedge banks that occur in most parts of Devon are an intimate element of the farmed landscape and over large areas of the county are the main refuge for a wide range of plants and animals. As many as 293 flowering plant species occur in the hedge banks of just one small 24 ha farm near Chudleigh. The successful conservation of hedges is critical to that of Devon's characteristic landscapes.

Devon has many types of hedge, albeit most being variants of the basic hedge bank design. The banks may or may not be faced by stone, and their construction reflects local soils, rocks, trees and land-use practices. As a consequence defining a species-rich hedge is not easy, but normally such a hedge should:

- On average have 5 or more native woody species in a 30 metre length; OR
- Support, in whole or in the part, the life cycle of one or more of the following key species: dormouse (p), greater horseshoe bat (p), ciril bunting (p), song thrush (p), small eggar moth, Devon carpet moth, brown hairstreak butterfly (p), Plymouth pear (p), Devon Whitebeam, wild service tree, small-leaved lime, purple ramping fumitory (p), balm-leaved figwort, bastard balm (p) or hay-scented fern. [Species marked (p) are 'Species of Principal Importance in England' (NERC Act, S.41)]; OR
- Contain any species included within Section 6(3) of Schedule 1 of the Hedgerow Regulations 1997, effectively specially-protected birds, mammals and plants, and Red Data Book insects, other invertebrates and vascular plants; OR
- Have at least six herbaceous (non-woody) flowering plants or ferns which are typical of woodland. (Many such species are of high popular appeal, for example primroses and bluebells).

These criteria may need to be changed in future, as we gain more information on the non-woody plants, insects and other invertebrates of the county's hedges, and on the importance of hedges as biological corridors (see Article 10 of the Habitats and Species Directive). Also, account needs to be taken of adjacent land use, since the degree to which some species, notably farmland birds, use hedges depends upon the favourableness of adjoining habitats, such as field margins or the cropping type.

As it stands the definition probably covers more hedges than are protected under the wildlife and landscape criteria in the Hedgerow Regulations, but

those Regulations were not drawn up with the aim of helping the UK Biodiversity Action plan to be delivered. The criteria used here are consistent with the UK plan, as well as being relevant to Devon and hopefully practical to use.

Species-rich hedges will often be ancient (*i.e.* pre-Enclosure Acts), but age, although indicative of biodiversity, is not itself a direct measure of it. For example, a study of hedges in the vicinity of Roadford Reservoir found no correlation between age and number of woody species. However, ancient hedges, if not necessarily of special wildlife value, are always of historic value.

The term 'hedge' is taken to include earth banks, whether stone-faced or not, with or without trees and shrubs on top of them. Dry-stone walls are not included. Associated features such as ditches, verges and headlands are covered indirectly by this action plan, in so far as their existence or management depends upon the hedge.

Single species hedges, such as hawthorn or beech ones, are excluded from the definition, unless they support one of the key species referred to above.

Hedges in poor condition, including those that have developed into lines of trees, are included alongside those in good condition, provided they are capable of restoration (as opposed to requiring re-creation).

2. Why an Action Plan?

Hedge networks are increasingly recognised to be of great importance for nature conservation, as well as defining our landscape. For many people, particularly urban visitors to the countryside, they are the most well known and loved feature of the rural environment, due to their accessibility, visibility and ubiquity. Over large stretches of lowland Britain they are the most significant wildlife habitat remaining, and are an essential refuge and movement corridor for a great many woodland and farmland plants and animals. The number of species they support can be very high - over 600 flowering plants, 1500 insects, 65 birds and 20 mammals have been recorded at some time living or feeding in hedgerows. Although very few of these species are found only in hedges, the sheer extent of the habitat means that it is of great importance for the survival of many.

Generations of farmers have been responsible for creating and managing these hedges as stock-proof barriers and shelter for livestock and crops. The hedges may mark changes in soil type and most are still valued by farmers as field boundaries and for shelter despite the introduction of stock fencing. New research has demonstrated the value of hedges as a source of beneficial insects that control agricultural pests such as aphids and others that pollinate

crops. Recently, the public has come to value hedges for their landscape, historical and wildlife interest.

Hedges are tremendously important historically. They preserve for us human decisions about the use of the landscape which often go back hundreds or even thousands of years. On the fringes of Dartmoor, some hedges continue the boundaries ('reeves') of Bronze Age field systems, some 3,500 years old. Most of our hedges are of at least medieval antiquity, with at least a quarter of them being more than 800 years old. Very few are the result of Parliamentary Enclosure Acts. Reflecting their great age, many hedges are archaeological sites in their own right, containing artefacts contemporary with their construction, or preserving pollen, plant fossils and other information beneath their bases.

Changes in agricultural practice, combined with expansion of towns and villages and development of the road network, have in the past resulted in significant removal of hedges and are currently leading to deterioration in their management. While changes have undoubtedly been greater in many other parts of England, many organisations have expressed concern about their effects on Devon's biodiversity and landscape.

This Action Plan seeks to influence the management of hedges by farmers, developers and others, to reverse the decline in biodiversity. The plan recognises that persuasion and encouragement are usually more effective tools than legislation, and that farmers must be fully involved in any decisions that are made. It acknowledges that the countryside is not a static landscape and that further changes to field patterns are inevitable and, in some circumstances, desirable.

3. Characteristic wildlife

Hedgerows in spring and summer are ablaze with colour; from the earliest snowdrops and primroses, to the vast variety of summer plants; campions, bluebell, cranesbills, vetches, bramble and dog rose, jack-by-the-hedge, dog's mercury, violets, foxglove, and in autumn fruits and berries of hawthorn, blackthorn, holly and bramble adorn the hedgerow. Ferns are to be found in the more shaded hedgerows, and lichens abound on many of the more mature shrubs and hedgerow trees, encouraged by the clean Devon air.

In spring, summer and autumn insects abound - butterflies, moths, bush-crickets, beetles, all exploiting the diverse food plants and ecological niches of a good hedge.

Familiar species of breeding bird such as the yellowhammer, whitethroat, chaffinch, song thrush and dunnock may be particularly numerous, and in winter flocks of migratory redwings and fieldfares join the more familiar resident species in search of berries.

About half of our native mammals make hedges their home, notably dormice, badgers, rabbits and hares, bats also use hedges as a safe travel route

between roosting and feeding sites. Indeed the abundant insect life of a hedge provides a rich feeding resource in its own right.

The often warm and sheltered micro-climate of hedges are good places for reptiles, such as slow worms, grass snakes and lizards.

4. Special species

See under *A Definition*.

5. Current extent (1998)

Devon probably has more species-rich hedges remaining than any other county in the UK, reflecting its large size, its pastoral landscape and the favourable management and agricultural systems adopted by local farmers. These hedges are distributed more or less evenly across the county, with all Natural Areas being important for them.

In the mid 1950s a sample survey estimated that there were 72,000 km (45,400 miles) of hedge in Devon. The Exmoor study found that in 1977 there were about 11.2 km of hedge per square kilometre of enclosed farmland. If this figure is extrapolated to Devon, which covers 6,710 km², and assuming that some 5,000 km² of this is enclosed farmland and a loss of 5% of hedges through removal over the last 20 years (revealed to be the case by a study of hedge loss in the Blackdowns), there may be some 53,000 km (33,000 miles) of hedge in the county now. However, this figure may be an underestimate, as suggested by looking at our road network. We have 14,500 km of roads in the county: if we assume that half of these roads have hedges on both sides, then this alone gives a figure of 14,500 km (9,000 miles) of hedge.

Perhaps 75% of hedges in the county are species-rich, as defined above, suggesting that there may be at least 40,000 km (26,000 miles) of species-rich hedge in Devon. Since it has been estimated that there are 190,000 km of species-rich hedge in the UK, Devon may have as much as 20% of the national resource.

If each hedge is on average 2.5m wide, then the habitat occupies perhaps 10,000 hectares, or 1.5% of the county area. In comparison, there are about 8,800 hectares of ancient semi-natural woodland in the county and 2,360 hectares of lowland heathland, further highlighting the importance of hedges for the conservation of biodiversity.

There is no published information available on the status of hedgerow trees in the county, although numbers are believed to have fallen during the latter half of the 20th century, especially through Dutch elm disease. The main trees found in hedgerows today are oak, ash and, particularly on Exmoor and Dartmoor, beech. The inclusion of the occasional tree within a hedge, or corner copses, is highly desirable for both diversity of habitat and landscape

value.

6. Current problems for hedges in Devon (1998)

- Neglect (no cutting or laying), reflecting modern high labour costs and loss of traditional skills, or the belief that no management at all is beneficial to landscape and wildlife.
- Unsympathetic cutting practices, such as cutting all hedges on a farm every year where there is no need to do so for agricultural or safety reasons, or cutting during the bird breeding season.
- Fertiliser and pesticide drift, or direct application, into hedge bottoms.
- Removal for agricultural or development purposes, including road widening.
- Erosion of banks through heavy stocking and, alongside tracks and roads, abrasion by vehicles.
- Off site removal of eroded bank soil, particularly along lanes, or the unsympathetic replacement of such soil back onto banks.
- Loss of hedgerow trees through senescence or felling, without encouraging replacements.
- Arable specialisation, removing the need for hedges for stock control or shelter.
- Ploughing too close to the hedge base.

In addition, the following factors have indirect effects:

- Shortage of data on the extent or quality of the resource.
- The large number of organisations concerned with giving advice or financial incentives for hedge management may lead to confusion.
- Want of consensus about optimal hedge cutting methods.
- Lack of knowledge about invertebrate communities, or their management requirements.
- Lack of skilled labour to carry out hedge restoration.
- Grubbing up short sections of hedgebanks for visibility splays and development.

7. Recent changes in extent (1998)

Few data are readily available to quantify changes in this resource. It is, however, known to be declining both in quantity and quality, both through outright hedge removal and through neglect or mismanagement. In four parishes in the Blackdowns, 26.5 km (5.7%) of hedgerows were removed between 1972 and 1993. A 1977 study of hedges within Exmoor National Park estimated that 200 miles (320 km) were lost through removal in the preceding 20 years, leaving 3,500 miles (5,600 km).

2004 revision: Data remains sketchy. However, the implementation of the Hedgerow Regulations 1997, together with the positive influence of agri-environment schemes, is likely to have halted the net loss of species-rich hedges. However, it is also likely that the condition of a number of hedges is continuing to decline due to a lack of suitable management.

8. Current site protection (1998)

Implementation by local authorities of the Hedgerow Regulations 1997 which protect 'important' hedges, although these regulations were drawn up independently from the UK Biodiversity Action Plan and do not cover many species, e.g. birds, known to be in serious decline (NB Many rare or rapidly-declining species found in hedges are already specially protected under law (e.g. Wildlife and Countryside Act 1981).

Local Authorities have a statutory duty under Regulation 37 of the Habitat Regulations 1994 to have policies which encourage the management of linear features (including traditional systems of marking field boundaries, e.g. hedges) essential for the migration, dispersal and genetic exchange of species. Government's Planning and Policy Guidance on Nature Conservation to Local Authorities (PPG9) translates the Regulations into guidance for preparing development plans and for individual planning applications.

9. Biodiversity planning context

National BAP Context

Habitat of principal importance in England (NERC Act, S.41):

- Hedgerows

Current national BAP targets can be viewed on the [Biodiversity Action Reporting System](#) (BARS).

Regional Plan Context

Regional targets for priority BAP habitats can be found on the website of Devon BAP
Version: May 2009

Associated Action Plans within the Devon BAP:

- Primrose
- Greater horseshoe bat
- Dormouse
- Cirl bunting
- Barn owl
- Brown hare
- Devon whitebeam and related species

10. Biodiversity objectives and targets for species-rich hedges in Devon

Please note: the objectives and targets have been subjected to preliminary review but require further examination.

Objective 1

To maintain at least the current extent of the resource.

Targets:

- On a district-wide scale, maintain the status of no net loss of species-rich hedges through removal – ongoing.
- Examine the options for the restoration of hedge networks at a landscape-scale, where they have been lost – by 2008.
- Ensure that no ancient hedges are lost, other than in exceptional circumstances – ongoing.

Rationale: The Hedgerow Regulations 1997, and the positive influence of agri-environment schemes, is likely to mean that there is currently no net loss of species-rich hedges through removal. This needs to be maintained and particular care should be taken to prevent hedges becoming isolated.

Since ancient hedges are historically irreplaceable their removal should only be countenanced in exceptional circumstances. Presumably, some ancient hedges continue to be lost through planning permission, flood defence work and other exceptions to the Hedgerow Regulations. Such hedges should be retained wherever possible.

Objective 2

To improve the quality of the habitat.

Targets:

- Within any one district, achieve the favourable condition of 50% of species-rich hedges by the year 2010.

Rationale: hedges can be lost through neglect as well as removal. They need suitable management if they are to be retained in favourable condition in the long-term, both as stock-proof barriers and a wildlife resource.

Objective 3

To maintain at least existing numbers of hedgerow trees.

Targets:

- By the year 2010, within each district, maintain isolated hedgerow trees at a constant number through ensuring that as many new ones grow as old ones die or fall.
- Encourage the management of hedgerow copses to ensure their continued survival.

Rationale: Since hedgerow trees will inevitably continue to be lost, to keep numbers steady as many new ones must be encouraged through planting or protection of natural regeneration as mature ones are lost. Hedgerow trees should, however, be well spaced. Hedgerow copses play an essential role in the ecology of hedgerows and Devon's landscapes.

11. Wider benefits from pursuing these objectives

The pursuit of the objectives and targets set out above will not only benefit the biodiversity of hedges. Conservation has wider benefits and advantages for society, by providing a resource that is the basis of many aspects of the local economy, and by adding to the quality of life of the people of Devon in ways that are beyond financial measure. Thus enhancing the interests of biodiversity will also enhance the interests of society as a whole. Some of these wider benefits are as follows:

- Retain and often restore the agricultural value of hedges as stock proof barriers, and as shelter for crops and stock.
- Create the basis for new and sustainable employment through increasing the demand for hedge management and restoration work, as well as for hedgerow products.
- Enrich the landscape, and so benefit green tourism initiatives and thus local

economies.

- Maintain the archaeological and historical value of hedges.
- Help control soil erosion.
- Support beneficial invertebrates outside cropping periods, such as pollinators and the predators and parasites of crop pests, so assisting agricultural productivity and the economy.
- Improve the quality of rough shooting.
- Increase the available supply of hedgerow products, such as hurdles, firewood, walking sticks, baskets, fruit for jams, etc., and at the same time reinforce our cultural links with the countryside.
- Protect and conserve a varied gene pool of unknown future human use (e.g. medical science).

12. Priority or indicative actions for species-rich hedges in Devon

Action	Key Partners
1. Continue to promote proper hedgerow maintenance, enhancement and restoration via agri-environment schemes, training and education of farmers and other land managers.	DHG; DEFRA; FWAG; DWT; NFU; CLA; NT; Ag. Colls.
2. Ensure that development plans contain policies to promote the protection and management of species-rich hedges and seek to minimise adverse effects on hedges from planning proposals.	LAs; GOSW; EN; DWT; CA
3. Ensure all local authorities implement and enforce the Hedgerow Regulations, ensuring that LA staff have the necessary skills and data sources to undertake this. Maintain registers of hedgerow retention notices.	LAs; DHG; EN; DWT
4. Continue to encourage planting of new species-rich hedges, especially to fill gaps in networks and compensate for hedges lost through planning permission.	DEFRA; LAs; FWAG; CA; DWT
5. Continue to monitor, at a district level, the quantity and quality of hedges and their trees. Ensure this data is available through DBRC.	LAs; DHG; DWT; Defra; NT; EN; DBRC
6. Enforce the requirement for felling licences for hedgerow trees and copses and encourage protection and management of replacements.	FC; LAs
7. Continue to encourage research into favourable hedge management techniques and into the wildlife of hedges and ensure that results are disseminated.	DHG; EN; Ag. Colls.; Universities
8. Promote an awareness of the wildlife, farming, landscape and archaeological importance of hedges to farmers and the general population of Devon.	DHG; All

Species-Rich Hedges Action Plan Champion – Natural England

Abbreviations used in text and table

CA Countryside Agency
 CLA Country Land and Business Association
 DBRC Devon Biodiversity Records Centre

Devon BAP
 Version: May 2009

DCC	Devon County Council
DEFRA	Department of Environment, Food and Rural Affairs
DHG	Devon Hedge Group
DRST	Devon Rural Skills Trust
DWT	Devon Wildlife Trust
EN	English Nature
FC	Forestry Commission
FWAG	Farming and Wildlife Advisory Group
GOSW	Government Office for the South West
LAs	Local Authorities (National Park Authorities; Unitary Authorities; County, District & Borough Councils)
NFU	National Farmers Union
NT	National Trust

Discontinued bodies referred to in text:

MAFF	Ministry of Agriculture, Fisheries and Food
FRCA	Farming and Rural Conservation Agency