

*A study of
local hedgerows*

Overton Biodiversity Society

2003-2005



Acknowledgements

The Overton Biodiversity Society would like to thank all those who contributed to this project:

Freya Batchelor, Lawrence Batchelor, Mike Bird (of the Basingstoke & Deane Borough Council), Sue Bryan, Betty Burden, Shirley Cardus, Sue Carter, Mrs Church, Heather Cousins, James Crosbie-Dawson, Kath Doyle, Kevin Doyle, Brian Elkins, Margaret Elkins, Naomi Ewald (of Hampshire and Isle of Wight Wildlife Trust), Mike Fisher, Richard Gibbins, Ralph Hardy, Peter Harrison, Lindy Hatchard, Nick Hatchard, David Hewetson-Brown, Nandita Hoyes, Richard Hoyes, Jay Hutchins, Pat Hutchins, Peter Hutchins, James Kater, Veronique Kerguelen, Laverstoke Estate, Adrian Lewis, Liz Lewis, Liz A. Lewis, Richard Lewis, Jane MacKenzie, Ken MacKenzie, Joy McGregor, Melvyn Melks, Richard Oram, Overton Library, Overton Parish Council, Cyprian Paine (of the Countryside Council for Wales), Nigel Plumtree, Margaret Rainford, John Ross, Sarah Ross, Doris Shorrocks, John Smith, Lucy Sloane Williams, Alan Stevens, Valda Stevens, Jim Stickland, Sandy Sykes, Adam Trickett, Elizabeth Ulph, Ian Van Houten, Timi Van Houten.

Artwork: John Busby (p.11), Kath Doyle (p.7), Veronique Kerguelen (p.13, p.22, p.24, p.25), Mike Langman (p.1) and Dan Powell (cover, p.5, p.14, p.18).

Table of Contents

Introduction.....	1
Hedgerows through time.....	2
Britain	
Overton	
Dating Hedgerows	
Importance of hedgerows.....	6
Farming	
Habitat	
Hedgerows in the parish.....	9
Survey	
Distribution	
Shape	
Hedgerow management.....	12
Physical condition	
Laying	
Coppicing	
Trimming	
Shrubs.....	15
Species list	
Most common species	
Most abundant species	
Trees.....	17
Species list	
Most common species	
Most abundant species	
Ground flora.....	19
Species list	
Most common species	

Identifying hedgerow plants.....	22
Climbers	
Leaves with smooth margins	
Leaves with toothed margins	
Hedgerows in the garden.....	26
Planting and care	
Choice of Species	
Surveys	
Hedgerows and the kitchen.....	29
Further reading.....	30

Introduction

A hedgerow is defined as “a line of one or more woody species, which may contain gaps, and includes associated vegetation of adjacent banks, ditches and/or field margins”. Hedgerows are one of the most characteristic features of the British lowland landscape. Of great importance visually, culturally and historically, they provide a rich habitat for many of our native species of plants and animals.

Etymology

Hedge: Middle English from Old English 'hecg', originally any fence, living or artificial, from West Germanic 'khagja'.

Over the years hedgerows have suffered as farming and land use practices have changed. The total length of hedgerows decreased by 28% in Britain between 1945 and 1974. This was followed by a net loss of 23% hedgerows (about 130 000 km or 81 000 miles) between 1984 and 1990. Between 1978 and 1990, on average one plant species was lost from each 10 metres (11 yards) of hedge, an 8% loss of plant species diversity. Hence, ancient and species-rich hedgerows have now been identified as “priority habitats”. Research and action to protect these features of great importance is now a national priority. Many of the wildlife organisations are at present actively involved in species recording and drawing up action plans for the protection and preservation of hedgerows. It was with all these considerations in mind that the Overton Biodiversity Society (OBS) began to study the hedgerows of the Parish of Overton.



Hedgerows through time

Britain

Hedgerows are a quintessential part of the British countryside however, their presence in our landscape has been variable in history. The earliest written evidence for a hedge dates back to 816 in Somerset and the earliest record of hedge planting dates to 940 in Wiltshire. This is not to say there were no hedgerows before then, but there are no records of them. Romans had a long tradition of hedging which they certainly brought with them. English elm, a species found most abundantly in older hedgerows was introduced to Britain by the Romans or possibly by Celtic tribes in the Bronze age.

The Anglo-Saxon period was marked by relatively few hedgerows, mostly limited to village and parish boundaries, as Anglo-Saxons invented open-field farming (8th century) where land was cultivated in strips farmed collectively. The Norman Conquest was followed by an active period of wood clearing (“assarting”) to create land for cultivation or grazing. The remnant wood boundaries created numerous hedges, known as assart hedges. Open-field farming continued to develop until the middle of the 12th century, presumably at the expense of existing hedgerows. Then, strips of land started to be aggregated and privatized so that hedgerows flourished as they were planted as new boundary features.

Later, hedgerow planting increased further as a result of a series of Enclosure Acts between 1750-1850. In that period, over 320 000 km (approximately 200 000 miles) of hedgerows were planted in England, that is, as much as what had been planted in the previous 500 years. The next 100 years were a period of relative stability. Things changed again after WWII when farming practices changed drastically with the advent of mechanization and large scale farming. Over a third of Britain’s hedgerows were thus lost between 1945 and 1990, mostly in Southern England. The most recent surveys of the countryside have indicated that the net loss of hedgerows has now stopped. In 1994, the total length of hedgerows in the UK was estimated to be about 450,000 km (280 000 miles).

Overton

The earliest known hedgerows of Overton are those recorded on the 1615 ‘Corpus Christi Map’. This shows the land in the possession of Corpus Christi College, Oxford. The hedgerows marked are those of Court Drove and what is now known as ‘The Forty Steps’. These, as now, were almost certainly extended north to the Harrow Way and along with ‘Jack

Mills Lane' were some of the old drove roads, which led from the North Downs to Overton. After the granting of a Sheep Fair Charter in 1246 Overton Sheep Fair attracted thousands of sheep each quarter. Good stockproof hedges would have been essential to both protect the surrounding land and for drovers to control the movement of the sheep. It is however thought that Court Drove in particular could be much older than most the Harrow Way, with which it connects, and is an ancient trade route between the Cornwall and the south west and Dover.

Another hedgerow marked on the Corpus Christi Map and found in 2005 to be very rich in species (11 in all, including purging buckthorn, dogwood, privet and elder) is that which leads into Foxdown Estate. At that time it separated the land known as 'Foxe downe' from that in the ownership of the Bishop of Winchester. The hedgerow along what is now Kingclere Road seems to have ended at Foxdown – no road or lane is shown at that time. Hedging is also evident along what are now Waltham Road, Bridge Street and Red Lion Lane (previously known as Sheep or Cattle Street) but it is difficult to find traces of them today other than around the sports field. It is probable that the main drove road entered the village between St. Mary's Church and Court Farm, followed the line of Bridge Street and Red Lion Lane up to the Pound at the top of Sapley Lane.

Hedgerows were often planted to mark parish boundaries and a number of these can be found on both the eastern and western boundaries of the Parish. Two examples show what can happen over the years. The first near Roundwood Farm is well maintained and rich in species whilst the other at White Lane (a designated Bio Site) on the eastern side of the parish has been neglected, there are gaps as well as fewer species of hedgerow shrubs to be found.

Throughout the parish there are a number of lanes where the greater number of species suggests that these are very old. The hedgerow along the lane from Polhampton to the U8 road (BOAT 25) is one of the richest in the parish containing eleven species including privet, field maple, gooseberry and spindle. Another species-rich hedgerow can be found along the track (FP2) which takes a north westerly direction from Kingsclere Road just north of the railway bridge, goes past Willesley Warren Farm and connects with the Roman Road known as Caesar's Belt. South of the village, species-rich hedgerows are found along the lane from Dellands to White Hill Farm (U30 BOAT 26), FP14, which crosses the fields from the top to Winchester Street to Pilgrims Farm, Sapley lane and Waltham lane. These are probably all old lanes which connect outlying farms or settlements with the village of Overton. Foxdown, Pilgrims Farm and Sapley are all thought to be very early in date and like Overton, were

present when the Domesday Survey was carried out in 1085, and all are thought to be Saxon or earlier. For the most part they have been little disturbed by traffic or changes in field boundaries.

The Enclosure Period in the eighteenth and nineteenth centuries was generally a time of renewed hedgerow planting but Overton's enclosures perhaps started earlier. The Bishop of Winchester had his 'new town' built on the south side of the River Test in 1218 and from then gradual enclosure seems to have taken place. It was probably hastened by the Black Death of 1349 when Overton and many hamlets suffered badly. Certainly no enclosure act relating to Overton has come to light. On the Tithe Map of 1843 some enclosure hedgerows can be seen in parts of the North Field – these have since disappeared as the small fields became incorporated into larger land holdings. On this map Kingsclere Road with its hedgerows is a more clearly defined track or lane and its age is borne out by the variety of species that are still present.

As in other parts of the country hedgerows were grubbed out at various times, usually for agricultural reasons. The first record of a hedge being removed from the north side of the Harrow Way occurs sometime in the seventeenth century. But in recent years planting of hedgerows has begun again. Through a greater appreciation of the importance and needs of wildlife as well as the move towards organically produced crops landowners are now planting species rich hedgerows. Such hedgerows can establish themselves in a very short space of time. A good example of this is at the western end of Straight Lane where a hedgerow planted less than fifteen years ago now flourishes and attracts a wide variety of insects and birds.

Dating Hedgerows

A common method employed to estimate the age of a hedgerow is to use Hooper's rule. The rule states that the number of different woody species present in a 30-yard stretch of hedgerow (27 m) is equal to the age of the hedgerow counted in centuries, for hedgerows up to 1 100 years old. This rule was established by Hooper after studying hedgerows in the 1970s.

The correlation between species richness and age can be explained by 3 factors:

- A hedgerow acquires new species through time as seeds propagated from the surrounding areas naturally germinate and new seedlings establish in the hedge.
- In earlier times hedgerows used to be planted with more species in, as people used plants found nearby.

-Older ages are more likely to be natural ones and therefore they were formed by a combination of seedlings propagated from the surrounding area.

Although the rule is a good guide, it cannot be seen as a hard rule and other elements can help establish a hedgerow's origin.

The shape of the hedgerow is an important piece of dating information. Wiggly lines and the presence of a ditch or bank suggest that a hedgerow may be of natural origin and therefore is potentially old. On the contrary, very straight hedgerows are very characteristic of post-1700 hedgerows as well as of Roman hedgerows.

The nature of the species present in the hedgerow is also very indicative of its origins.

-Typically, Victorian hedges are made of a single row of hawthorn.

-A hedgerow made solely of elm can be very old (possibly Roman) as this species tends to progressively suppress other species nearby.

-Hazel and spindle are slow colonizers and their presence is often an indicator of an older hedge.

-Maple and dogwood are also often associated with older hedgerows as traditionally they were rarely planted and thus must colonize hedgerows naturally.

-Elder is a species that is a good colonizer but is also short-lived relative to other species, therefore it appears and disappears repeatedly in hedgerows and cannot serve as an indicator of age.

All these elements are useful to date older hedgerows, however it is important to note that many modern hedgerows are planted with multiple species to increase their value for wildlife and therefore, they contradict these observations!



Importance of hedgerows

Farming

Although we think of hedgerows as natural features their presence is strongly linked to human activities. Hedgerows can form spontaneously along ditches, banks, fields boundaries and fences but it is a slow process and a transient state. Hedgerows left to their own devices progressively turn into rows of trees and eventually disappear as trees die.

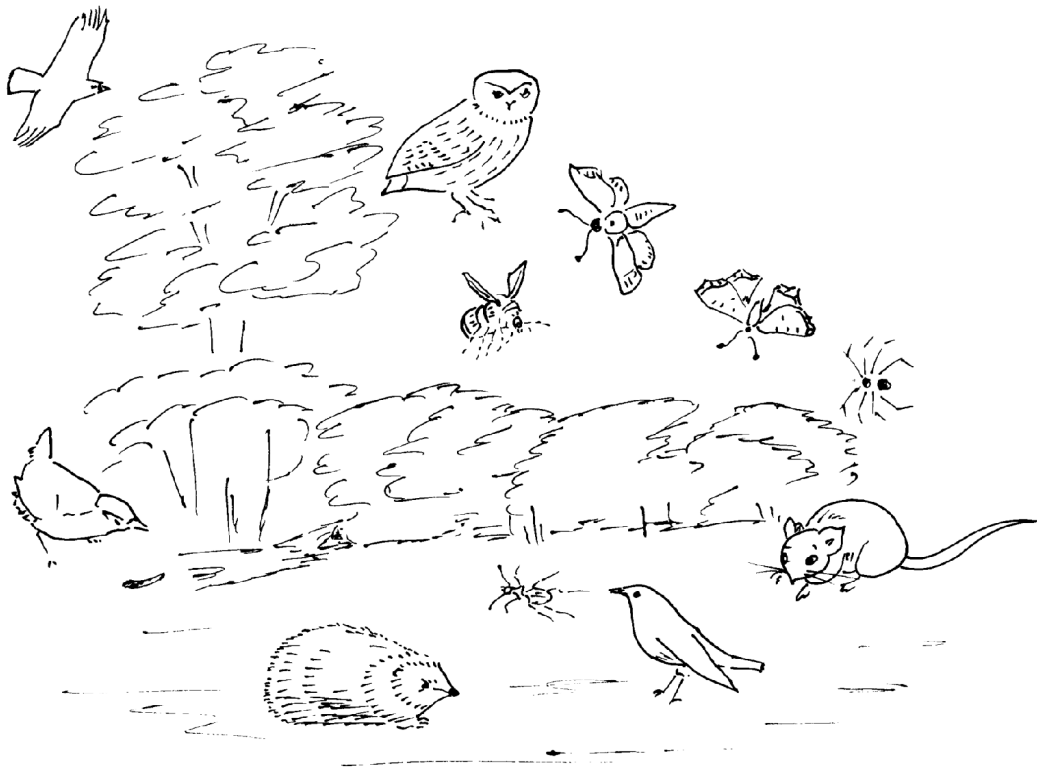
In reality, hedgerows are strongly associated with farming. Traditionally, they were used to contain livestock and mark boundaries. Today still, they can help to prevent soil erosion and water run-off, shelter and control livestock, and protect crops from wind. Obviously, they are important boundary markers too.

At times, hedgerows have been a very important resource also, for other people who could harvest wood, seeds, nuts, berries and flowers from them. For example, baskets were made with twigs harvested in hedgerows, gypsies made small baskets with violets and primroses, pipes were made with briar (rose) roots, rose hips were harvested to make syrup, crab apple and blackberries were made into jam and jelly and of course, people could always find shelter and 'sleep under a hedge'.

Habitat

Hedgerows may look unimposing but they are a key resource for wildlife. They constitute a habitat for many animals and plants as is reflected in the abundance of common names containing 'hedge' like Hedgehog, Hedge sparrow, Hedge Rustic Moth, Hedge Parsley, Hedge bedstraw, Hedge Woundwort.

Although we often think of hedgerows as an entity by themselves, they really are a complex of habitats arranged in multiple layers: the ground level, the herbs and brambles, the shrub layer, the tree trunks and finally the tree canopy, with each level providing a habitat for different species. For example, on the ground, skylarks nest while wrens and song thrushes feed. Goldfinches and greenfinches feed in the herbs layer. In the shrub layer, turtle doves and magpies nest, while fieldfares and robins feed. Holes in tree trunks provide a perfect nesting site for barn owls and jackdaws while tree creepers find their food in the nooks and crannies of the bark. Finally the canopy provides a strong support for rooks and pigeons nests and plenty of food for busy tits and chaffinches.



In total it is estimated that over 600 hundred plant species are associated with hedgerows in Britain and this provides resources for over 1 500 species of insects, 65 species of birds and 20 species of mammals. At least 47 of these species are of conservation concern in the UK, including 13 threatened species. Animals use hedgerows not only as breeding sites, feeding sites and shelters but also as corridors to move from one location to another. For example, dormice live in wooded areas but travel along hedgerows to find food and to move to other woods. Species like bees and bats use hedgerows as landmarks to navigate their way round the countryside while foraging.

Feeding occurs in the summer for insects feeding on flower nectar and pollen (beetles, bees, flies, butterflies) but hedgerows are an even more important resource at other times when most annuals and perennials elsewhere have faded away. In the spring, the dense blackthorn bloom occurs before anything else is in flower and benefits early species. In autumn and winter hedgerows provide a bounty of berries and nuts for birds and mammals to feed on.

Hedgerow regulations

The Hedgerow Regulations were introduced in England and Wales in 1997 in order to protect hedgerows by regulating their removal. In short, if a hedgerow is deemed important for wildlife, history or landscape, then it is protected. These regulations are currently being reviewed but the present rules are summarised below.

- Landowners must submit a hedgerow removal notice to the local planning authority before removing a countryside hedgerow.
- The local authority, then, must determine whether the hedgerow is “important” according to criteria set out in the regulations.
- To be important a hedgerow must:
 - have existed 30 years or more AND
 - be associated with an archaeological or historical feature OR contain a listed species of animal or plant (endangered, vulnerable or rare) OR be species-rich (as set out by the Regulations).
- If the hedgerow is classified as “important” a “hedgerow retention notice” is sent to the landowner and removal of the hedgerow is prohibited (subject to exceptions such as authorized development, national defence, etc...)
- Hedgerows removed unlawfully must be reinstated.

Brown Hairstreak,

Thecla betulae



This rare butterfly breeds on blackthorn and other members of the plum family. Females lay eggs in late summer on young blackthorn stems. The eggs remain there throughout the winter and hatch in May when the leaves open and provide food for the caterpillars.

Hedgerows in the parish

Survey

Between 2003 and 2005 OBS volunteers scoured the parish to survey its hedgerows. The first stage was to map as accurately as possible all the existing hedgerows within the parish boundaries. The second stage was to note and record in detail the composition and physical characteristics of a large number of hedgerows throughout the parish to draw a detailed picture of Overton's hedgerows. Over the three years of the study, 88 hedgerows were surveyed throughout the parish.

Hedgerows were surveyed following the protocol developed by the Steering Group for the UK Biodiversity Action Plan for Ancient and/or Species-rich Hedgerows (under the auspices of the Department for Environment, Food and Rural Affairs). This protocol was developed as a standard for hedgerow survey throughout the country. For each hedgerow, a 30 m (33 yards) sample section was marked out, 30 m from the left end of the hedge, and was surveyed in detail.

Within the sample section:

- all shrub species were recorded as well as the approximate area covered by each species;
- all species of trees were recorded as well as the numbers of specimens;
- all species of herbs and grasses present in two 2 x 1 m (6 x 3 feet) squares, 10 m (11 yards) apart, at the foot of the sample section were recorded.

In addition information regarding the surrounding land use and the physical aspects of the hedgerow were recorded.

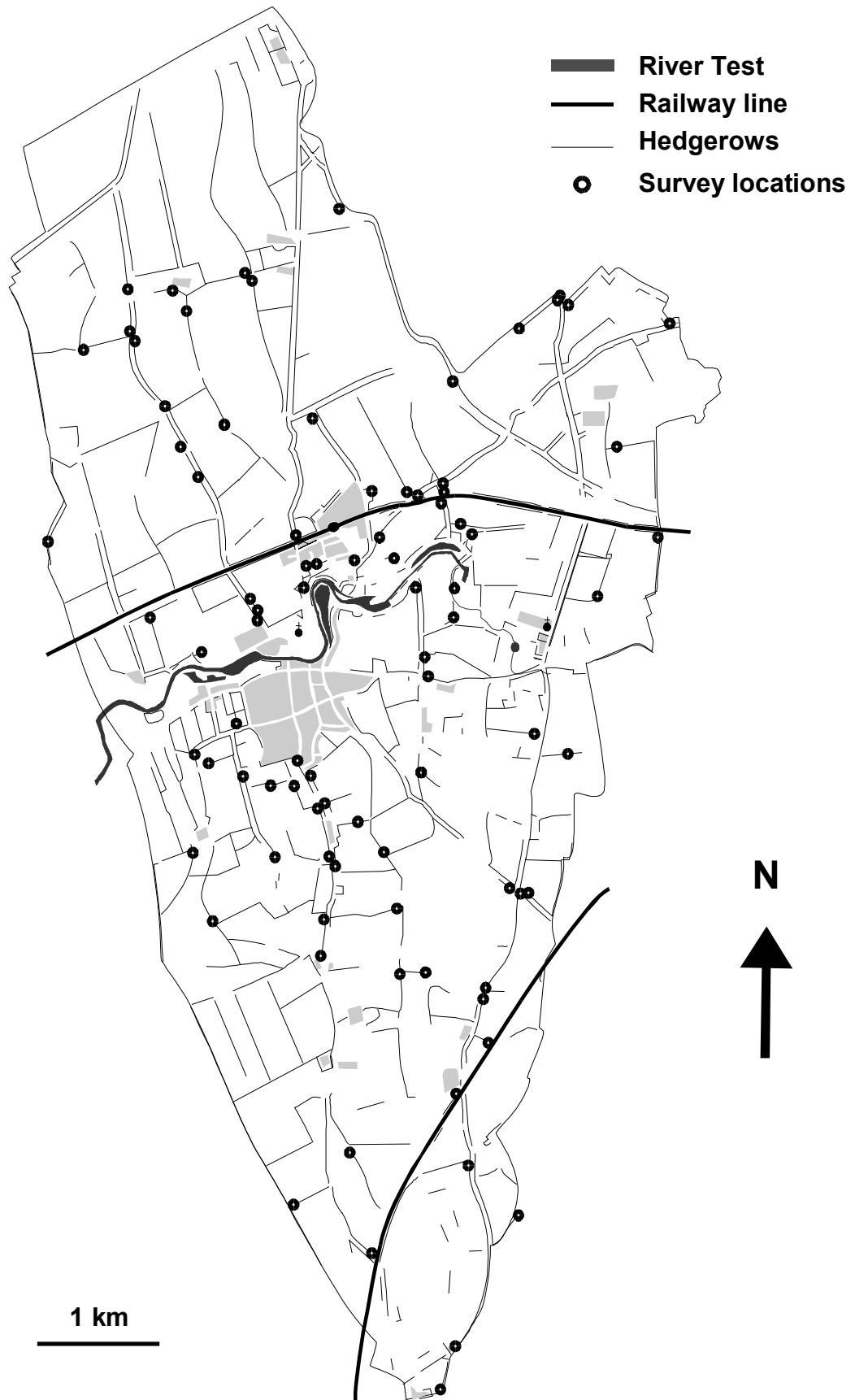
A formal report was produced in 2005 presenting the detailed results of the survey and forming the starting point for this extended document.

Distribution

Overton parish covers an area of approximately 35 km² (13 sq miles) including the upper Test valley, on the western side of the Hampshire downs. The upper soil is made for the most part of chalk with scattered areas of clay with flint and some river and valley gravel deposit in the river valley itself. The village of Overton lies at the centre of the parish on the banks of the river Test and is surrounded by agricultural land dedicated to arable crops and grazing.

Hedgerows are found along the parish boundaries, along roads and tracks, and as field boundaries. The total length of hedgerows in the parish was estimated at 150 km (100 miles),

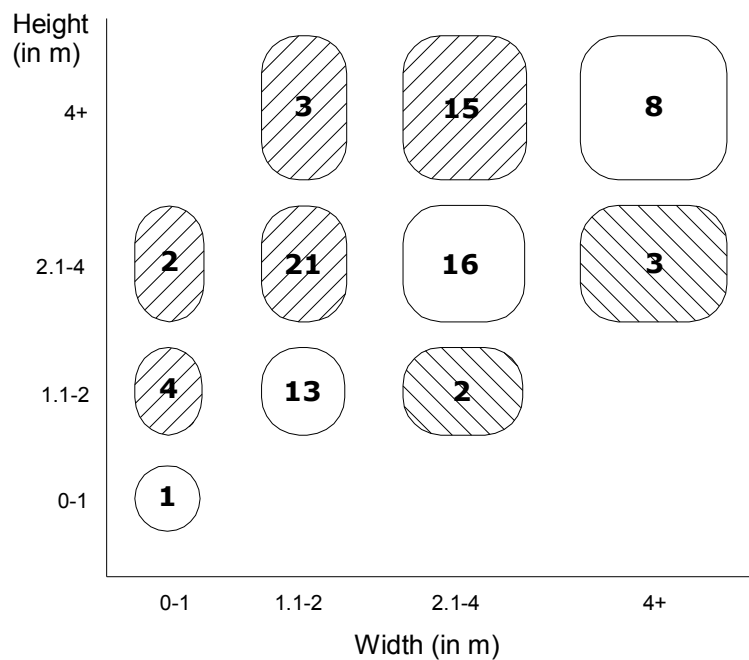
that is approximately 3 times the total length of roads in the parish. These hedgerows form a fairly dense network through the countryside, with approximately 4 km of hedgerows per square km (18 yards/ acre). This is also the average hedgerow density in Hampshire.



Shape

Almost exactly half of the hedgerows (45) were taller than they were wide (▨) and thus presented an elongated profile. The other hedgerows were mostly as wide as they were tall (38) and appeared relatively square shaped. Only very few hedgerows (5) were wider than they were tall, looking comparatively flat (◻).

In terms of size, most hedgerows (70) were between 1 and 4 metres wide, and most hedgerows (68) were over 2 metres tall.



There is no definite best shape or size for a hedgerow in terms of its benefits to wildlife, as different plants and animals have different needs. All hedgerows over 2m tall provide a good habitat for a variety of species, as long as they are thick and dense. The good diversity of hedgerows we have observed in this survey is a favourable element for biodiversity in the parish.

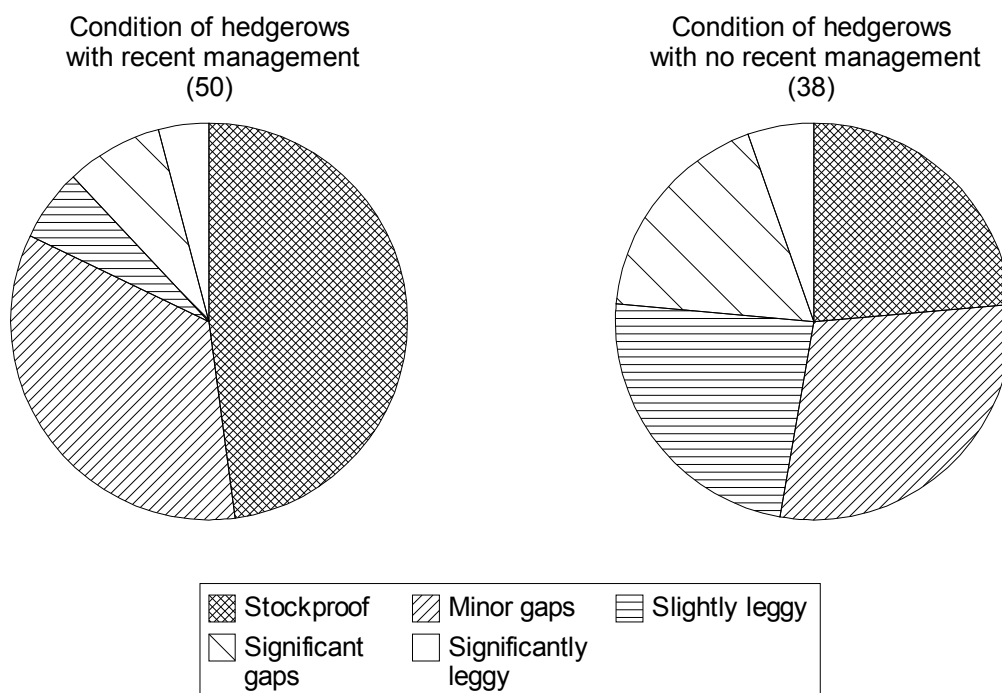


Hedgerow management

Physical condition

Most of the hedgerows surveyed were in good condition. Approximately one third of them (38%) were thick and dense (stockproof) and another third (33%) presented only occasional gaps where a shrub died or animals created an opening. The remaining third (29%) was in poor condition, either significantly leggy (i.e. growth concentrated at the top of the hedge) or with major gaps.

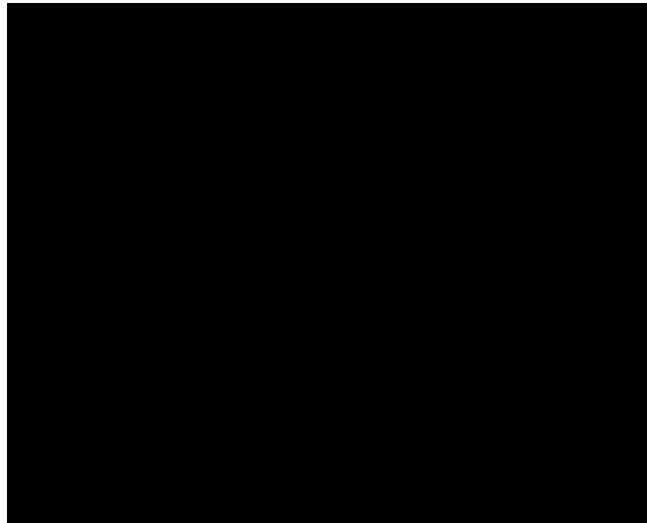
The majority of hedgerows (57%) showed signs of recent management (within 2 years) and it appears that hedgerows managed recently were in the best condition. While 82% of recently managed hedgerows were in good condition with no (⊗) or minor gaps (▨), only 53% of unmanaged hedgerows were (see figure below).



These results illustrate how unmanaged hedgerows tend to grow tall and leggy and develop gaps. Managing hedgerows is a skilled and potentially time consuming job. One has to juggle with economic constraints, regulations, time availability, conservation issues and practical issues. Good management of hedgerows requires skill and commitment.

Laying

A good technique for producing stockproof hedgerow is to lay them periodically (10-20 years). Hedge-laying is a local craft just as dry stone walling is and styles vary between areas. However, the general principals are the same everywhere: a hedgerow is allowed to grow a few years to produce thick stems from which side shoots are cleared. Then, the base of the stem of the hedge plants are cut through so that they are almost but not completely severed. The stem is then bent at 25 to 45 degrees above the horizontal and maintained there with the aid of stakes and by interweaving stems. New growth will arise at the base of the cut stems as well as along the bent stems to form a dense, rejuvenated hedge. Meanwhile the bent stems will ensure the hedge is stockproof. Although none of the hedgerows surveyed in this study was laid, several showed evidence of laying in the past; others that were not surveyed were recently laid.



Coppicing

Coppicing is the practice of cutting trees down just above ground level and letting new growth emerge from the stool. It is a traditional form of woodland management and has also been widely applied to hedgerow management. This form of management works well in a rotation system where the enclosed land can be cultivated in the first few years following coppicing and then used to keep stock when the hedge is stockproof again.

'By hook or by crook'

Possibly from a custom in mediaeval England that allowed peasants to take any deadwood from the Royal Forest that they could reach with a shepherd's crook or a reaper's billhook

Trimming

Trimming is the most common form of modern management because it is mechanised and relatively easy. Just like laying and coppicing, trimming encourages new growth and can help producing dense bushy hedgerows. However, it can also weaken hedgerows when it is done too often, at the wrong time of year or with inappropriate tools (such as tools designed to cut small branches used on thick branches resulting in very untidy cuts and damaged shrubs).

Current recommendations for trimming hedgerows for the benefit of biodiversity are:

- Frequency: Avoid annual trimming which reduces habitat quality for birds and invertebrates and reduces flower and fruit yields;
- Timing: Preferably in February in order to allow animals to find shelter and food throughout autumn and most of winter, but before shrubs start putting out new growth, and birds start nesting. The most recent reform of the Common Agricultural Policy includes a ban on trimming hedgerows between 1st March and 31st July;
- Shape: The A-cut (wide base and narrow top) reduces leggyness as the bottom of the shrubs receives plenty of light and rain otherwise stopped by the higher parts of the plant.



Shrubs

Species list

In total we identified 36 woody species in the shrub layer of the hedgerows surveyed, plus 6 non-woody climbing species. Most of these species are native and typical of chalky lowland landscapes.

Woody species

Common name	Scientific name	Common name	Scientific name
Alder	<i>Alnus glutinosa</i>	Hawthorn	<i>Crataegus monogyna</i>
Alder buckthorn	<i>Frangula alnus</i>	Hawthorn	<i>Crataegus laevigata</i>
Ash	<i>Fraxinus excelsior</i>	(midlands)	
Beech	<i>Fagus sylvatica</i>	Hazel	<i>Corylus avellana</i>
Blackthorn	<i>Prunus spinosa</i>	Holly	<i>Ilex aquifolium</i>
Bramble	<i>Rubus fruticosus</i>	Honeysuckle	<i>Lonicera periclymenum</i>
*Buddleia	<i>Buddleia sp.</i>	Ivy	<i>Hedera helix</i>
*Conifer 1 +2		Oak	<i>Quercus robur</i>
Crab apple	<i>Malus sylvestris</i>	Privet	<i>Ligustrum vulgare</i>
*Cultivated apple	<i>Malus domestica</i>	Purging buckthorn	<i>Rhamnus cathartica</i>
Dogwood	<i>Cornus sanguinea</i>	Rose (dog)	<i>Rosa canina</i>
Elder	<i>Sambucus nigra</i>	Rose (field)	<i>Rosa arvensis</i>
Elm (English)	<i>Ulmus procera</i>	Spindle	<i>Euonymus europaeus</i>
Elm (wych)	<i>Ulmus glabra</i>	Sycamore	<i>Acer pseudoplatanus</i>
Field maple	<i>Acer campestre</i>	Wayfaring-tree	<i>Viburnum lantana</i>
*Garden hedging	<i>Lonicera nitida</i>	Whitebeam	<i>Sorbus aria</i>
Gooseberry	<i>Ribes grossularia</i>	Wild Cherry	<i>Prunus avium</i>
Guelder-rose	<i>Viburnum opulus</i>	Willow	<i>Salix sp.</i>

*Garden species

Non-woody climbers

Common name	Scientific name	Common name	Scientific name
Bindweed	<i>Convolvulus arvensis</i>	Deadly nightshade	<i>Atropa belladonna</i>
Bittersweet	<i>Solanum dulcamara</i>	Old man's beard	<i>Clematis vitalba</i>
Black bryony	<i>Tamus communis</i>	White bryony	<i>Bryonia dioica</i>

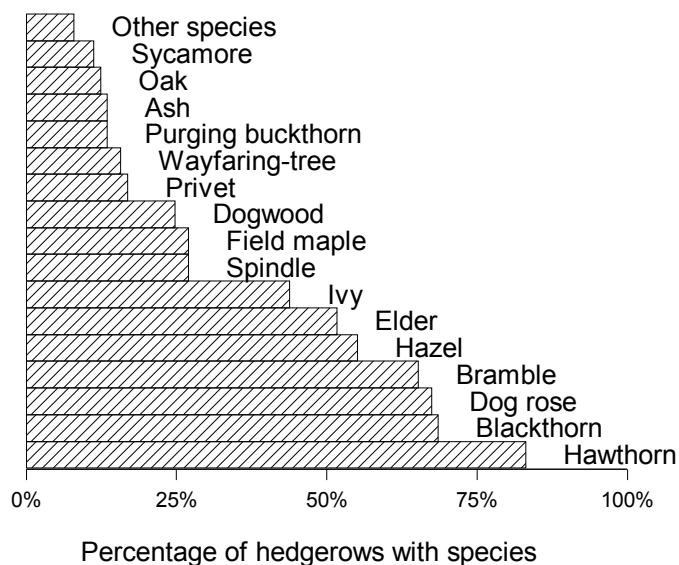
The number of shrub species found in a given hedgerow varied from 1 (elm) to 11 (in 30 m) and the average was 6. However, overall over three quarters of hedgerows (79%) contained more than 5 or more species per 30m (33 yards). This is significant because hedgerows containing 5 or more species are classified as “species-rich” hedgerows which indicates that they are of particular value for wildlife. Remarkably, the proportion of 'species-rich' hedgerows in Great Britain was estimated at 26% in the Countryside Survey 2000, which places our hedgerows well above average.

Most common species

Hawthorn was the species found most frequently: it was found in over 8 out of 10 hedgerows surveyed.

Blackthorn, dog rose and bramble were next, being present in over 6 hedgerows out of 10.

Elder and Hazel were found in every other hedgerow. All the other species were present in less than half of the hedgerows surveyed.

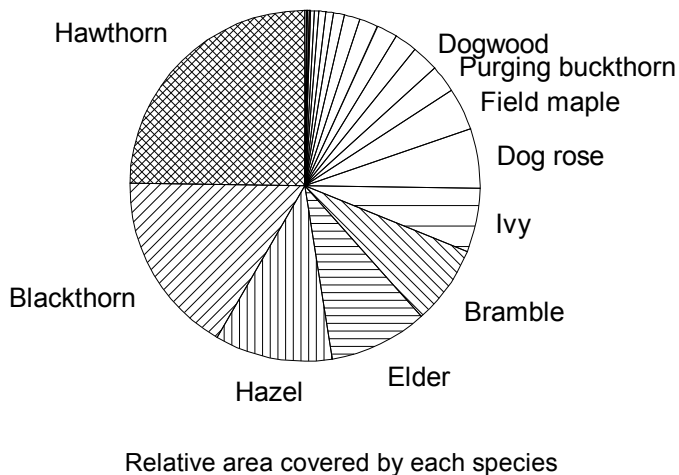


Most abundant species

Although we found a great variety of species, many of them were present in small amounts and overall, two thirds of the hedgerows surveyed were made of only 4 dominant species (hawthorn, blackthorn, hazel and elder).

Hawthorn was the most abundant species making up a quarter of the length of hedgerows surveyed.

Blackthorn was second making up 17% of the length of all hedgerows surveyed, and hazel was third with 11%.



Trees

Species list

Approximately a quarter (28%) of the hedges did not have any trees anywhere in their entire length, and another quarter contained only 1 to 5 trees over their entire length (which varied greatly). Because the detailed surveys were done on stretches only 30 metres long (33 yards) the probability of surveying trees was quite low and thus, only 43 (of 88) surveys included trees. Most of these surveys included 1 to 5 trees although 11 contained more than 5 trees. Altogether 174 trees were surveyed, belonging to 22 different species. All these species are indigenous and are common locally on chalky soils.

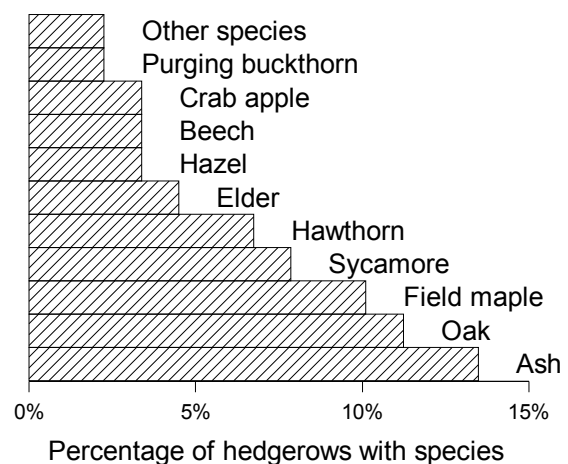
Tree species

Common name	Scientific name	Common name	Scientific name
Ash	<i>Fraxinus excelsior</i>	Italian alder	<i>Alnus cordata</i>
Beech	<i>Fagus sylvatica</i>	Oak	<i>Quercus robur</i>
Blackthorn	<i>Prunus spinosa</i>	Poplar (grey)	<i>Populus canescens</i>
Cherry	<i>Prunus sp.</i>	Purging buckthorn	<i>Rhamnus catharticus</i>
Crab apple	<i>Malus sylvestris</i>	Scots pine	<i>Pinus sylvestris</i>
Dogwood	<i>Cornus sanguinea</i>	Sessile oak	<i>Quercus petraea</i>
Elder	<i>Sambucus nigra</i>	Sycamore	<i>Acer pseudoplatanus</i>
Field maple	<i>Acer campestre</i>	Wayfaring-tree	<i>Viburnum lantana</i>
Hawthorn	<i>Crataegus monogyna</i>	Wild cherry	<i>Prunus avium</i>
Hazel	<i>Corylus avellana</i>	Willow	<i>Salix sp.</i>
Holly	<i>Ilex aquifolium</i>	Yew	<i>Taxus baccata</i>

Most common species

Ash was the most likely species to be encountered as it was found in 12 surveys, that is in over a quarter (28%) of the surveys with trees present, but relative to the total number of hedgerows surveyed it was found in only 13% of hedgerows.

Oak was the second most commonly encountered species (found in 10 surveys) and field maple came next by only one hedgerow (found in 9 surveys).

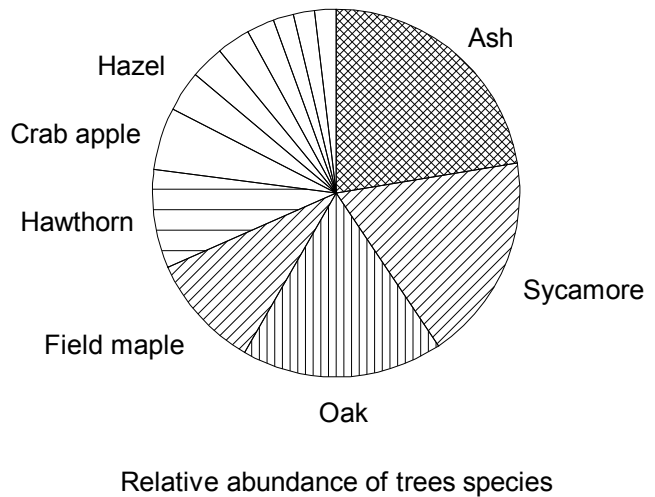


Most abundant species

Ash trees were those found in the highest numbers with 37 trees counted.

The total number of sycamore trees was 30 in 7 surveys, however 18 of those trees were in the same hedgerow! Oak was almost as abundant with 29 trees counted in 10 surveys.

Nationally, oak and ash trees represent together 65% of hedgerow trees in England.



Ground flora

Species list

The ground flora was recorded for 66 hedgerows. On average, 10 species were found growing at the foot of hedgerows surveyed that is, 7 herbaceous species, 2 grass species and 1 woody species, although numbers varied widely with a minimum of only 1 species (ivy) and a maximum of 25 species (16 herbaceous plants, 5 grasses and 4 woody species).

In total, 87 species of herbaceous plants, 14 species of grasses, 14 woody species and one fern species were identified and a few more species were not identified.

Herbaceous species

Common name	Scientific name	Common name	Scientific name
Agrimony	<i>Agrimonia eupatoria</i>	Dead nettle (red)	<i>Lamium purpureum</i>
Bedstraw (heath)	<i>Galium saxatile</i>	Dead nettle (white)	<i>Lamium album</i>
Bedstraw (hedge)	<i>Galium mollugo</i>	Deadly nightshade	<i>Atropa belladonna</i>
Bindweed	<i>Convolvulus arvensis</i>	Dock (common)	<i>Rumex obtusifolius</i>
Bindweed (black)	<i>Fallopia convolvulus</i>	Dog's mercury	<i>Mercurialis perennis</i>
Bindweed (hedge)	<i>Calystegia sepium</i>	Euphorbia	<i>Euphorbia sp.</i>
Bittersweet	<i>Solanum dulcamara</i>	Fat hen	<i>Chenopodium album</i>
Burdock (greater)	<i>Arctium lappa</i>	Fool's parsley	<i>Aethusa cynapium</i>
Burdock (lesser)	<i>Arctium minus</i>	Forget-me-not	<i>Myosotis arvensis</i>
Buttercup (creeping)	<i>Ranunculus repens</i>	(field)	
Campion (white)	<i>Silene latifolia</i>	Garlic mustard	<i>Alliaria petiolata</i>
Cat's ear	<i>Hypochaeris sp.</i>	Ground ivy	<i>Glechoma hederacea</i>
Charlock	<i>Sinapis arvensis</i>	Groundsel	<i>Senecio vulgaris</i>
Chervil	<i>Chaerophyllum sp.</i>	Hedge mustard	<i>Sisymbrium officinale</i>
Chickweed (common)	<i>Stellaria media</i>	Hedge parsley	<i>Torilis japonica</i>
Chicory	<i>Cichorium intybus</i>	Hedge woundwort	<i>Stachys sylvatica</i>
Cleavers	<i>Galium aparine</i>	Herb Robert	<i>Geranium robertianum</i>
Clover (red)	<i>Trifolium pratense</i>	Hogweed	<i>Heracleum sphondylium</i>
Clover (white)	<i>Trifolium repens</i>	Knotgrass	<i>Polygonum aviculare</i>
Coltsfoot	<i>Tussilago farfara</i>	Lords & ladies	<i>Arum maculatum</i>
Cow parsley	<i>Anthriscus sylvestris</i>	Mayweed (scented)	<i>Matricaria perforata</i>
Cranesbill (cut leaf)	<i>Geranium dissectum</i>	Mayweed	<i>Tripleurospermum</i>
Cranesbill (dove's foot)	<i>Geranium molle</i>	(scentless)	<i>maritimum</i>
Cranesbill (longstalk)	<i>Geranium columbinum</i>	Mugwort	<i>Artemisia vulgaris</i>
Creeping cinquefoil	<i>Potentilla reptans</i>	Musk mallow	<i>Malva moschata</i>
Dandelion	<i>Taraxacum officinale</i>	Nettle	<i>Urtica dioica</i>
		Nipplewort	<i>Lapsana communis</i>

continued...

Herbaceous species (continued)

Common name	Scientific name	Common name	Scientific name
Old man's beard	<i>Clematis vitalba</i>	St. John's wort	<i>Hypericum sp.</i>
Pansy (field)	<i>Viola arvensis</i>	Stichwort (great)	<i>Stellaria holostea</i>
Perennial sow-thistle	<i>Sonchus arvensis</i>	Stork's-bill	<i>Erodium cicutarium</i>
Petty spurge	<i>Euphorbia peplus</i>	(common)	
Plantain (greater)	<i>Plantago major</i>	Thistle (creeping)	<i>Cirsium arvense</i>
Plantain (ribwort)	<i>Plantago lanceolata</i>	Thistle (milk)	<i>Silybum marianum</i>
Poppy	<i>Papaver sp.</i>	Thistle (spear)	<i>Cirsium vulgare</i>
Prickly sow-thistle	<i>Sonchus asper</i>	Thistle (welted)	<i>Carduus crispus</i>
Ragwort	<i>Senecio jacobaea</i>	Vetch (common)	<i>Vicia sativa</i>
Red hemp-nettle	<i>Galeopsis angustifolia</i>	Vetch (tufted)	<i>Vicia cracca</i>
Salad burnet	<i>Sanguisorba minor</i>	Violet	<i>Viola sp.</i>
Scarlet pimpernel	<i>Anagallis arvensis</i>	Wild marjoram	<i>Origanum vulgare</i>
Self-heal	<i>Prunella vulgaris</i>	Wild parsnip	<i>Pastinica sativa sativa</i>
Sheep's sorrel	<i>Rumex acetosella</i>	Wild strawberry	<i>Fragaria vesca</i>
Sheperd's purse	<i>Capsella bursa-pastoris</i>	Willowherb (great)	<i>Epilobium hirsutum</i>
Smooth hawk's-beard	<i>Crepis capillaris</i>	Willowherb	<i>Chamerion</i>
Speedwell (field)	<i>Veronica persica</i>	(rosebay)	<i>angustifolium</i>
Speedwell (germander)	<i>Veronica chamaedrys</i>	Wood avens	<i>Geum urbanum</i>
Speedwell (heath)	<i>Veronica officinalis</i>	Yarrow	<i>Achillea millefolium</i>

Grass species

Common name	Scientific name	Common name	Scientific name
Annual meadow grass	<i>Poa annua</i>	Perennial ryegrass	<i>Lolium perenne</i>
Barren brome	<i>Bromus sterilis</i>	Red fescue	<i>Festuca rubra</i>
Brome	<i>Bromus sp.</i>	Rough meadow grass	<i>Poa trivialis</i>
Cocksfoot	<i>Dactylis glomerata</i>	Sweet vernal grass	<i>Anthoxanthum</i>
False oat grass	<i>Arrhenatherum elatius</i>		<i>odoratum</i>
Fescue	<i>Festuca sp.</i>	Tufted hairgrass	<i>Deschampsia flexuosa</i>
Meadow foxtail	<i>Alopecurus pratensis</i>	Wild oats	<i>Avena fatua</i>
Oat	<i>Avena sp.</i>		

Woody species

Common name	Scientific name	Common name	Scientific name
Ash	<i>Fraxinus excelsior</i>	Ivy	<i>Hedera helix</i>
Blackthorn	<i>Prunus spinosa</i>	Oak	<i>Quercus robur</i>
Bramble	<i>Rubus fruticosus</i> agg.	Poplar (grey)	<i>Populus alba canescens</i>
Dogwood	<i>Cornus sanguinea</i>	Purging buckthorn	<i>Rhamnus cathartica</i>
Elder	<i>Sambucus nigra</i>	Rose (dog)	<i>Rosa canina</i>
Hawthorn	<i>Crataegus monogyna</i>	Spindle	<i>Euonymus europaeus</i>
Hazel	<i>Corylus avellana</i>	Sycamore	<i>Acer pseudoplatanus</i>

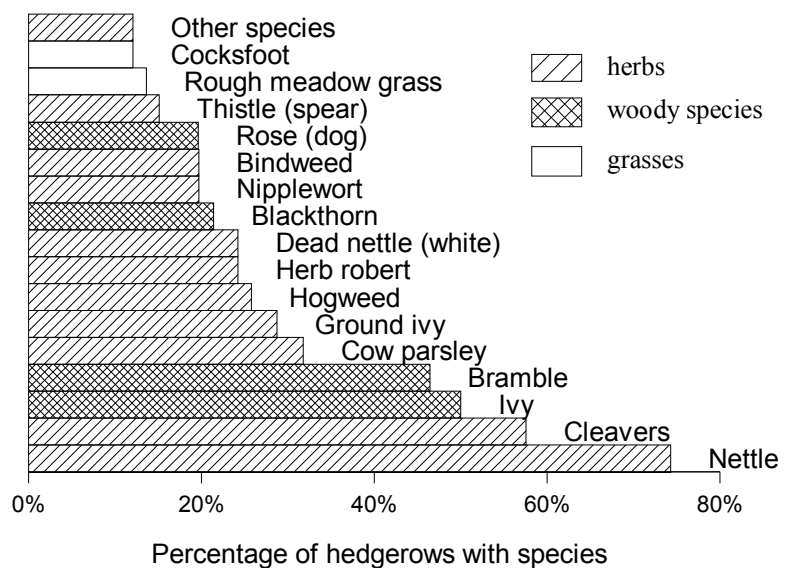
Fern species

Common name	Scientific name
Rusty-back fern	<i>Ceterach officinarum</i>

Most common species

The species most likely to be encountered at the bottom of hedgerows were nettle and cleavers, found in 74% and 58% of hedgerows, respectively.

The next two most common species were two woody species with climbing habits, ivy and bramble, spreading from the hedgerow's shrub layer.



The species associations found at the foot of our hedgerows were typical of the flora found along hedgerows and field boundaries in the arable landscape of Southern England. Nettle, cleavers, false oat-grass are typical representatives of these species thriving in highly fertile, moderately disturbed habitats on alkaline soil. Nationally, the frequency of weeds such as cleavers and sterile brome has increased in hedges between 1978 and 1990 over the whole of Britain, and particularly in the arable landscape, as a result of increased nutrients (eutrophication) resulting from modern agriculture.

Identifying hedgerow plants

With such a great diversity of species found in hedgerows it can be difficult to recognise all of them. In the guide below the leaves of the main species of shrubs and climbers found locally are presented with a brief description and drawing to help the identification process. Species are grouped into three categories: shrub leaves with smooth margins, shrub leaves with toothed margins and climbers leaves (woody and non-woody).

Climbers

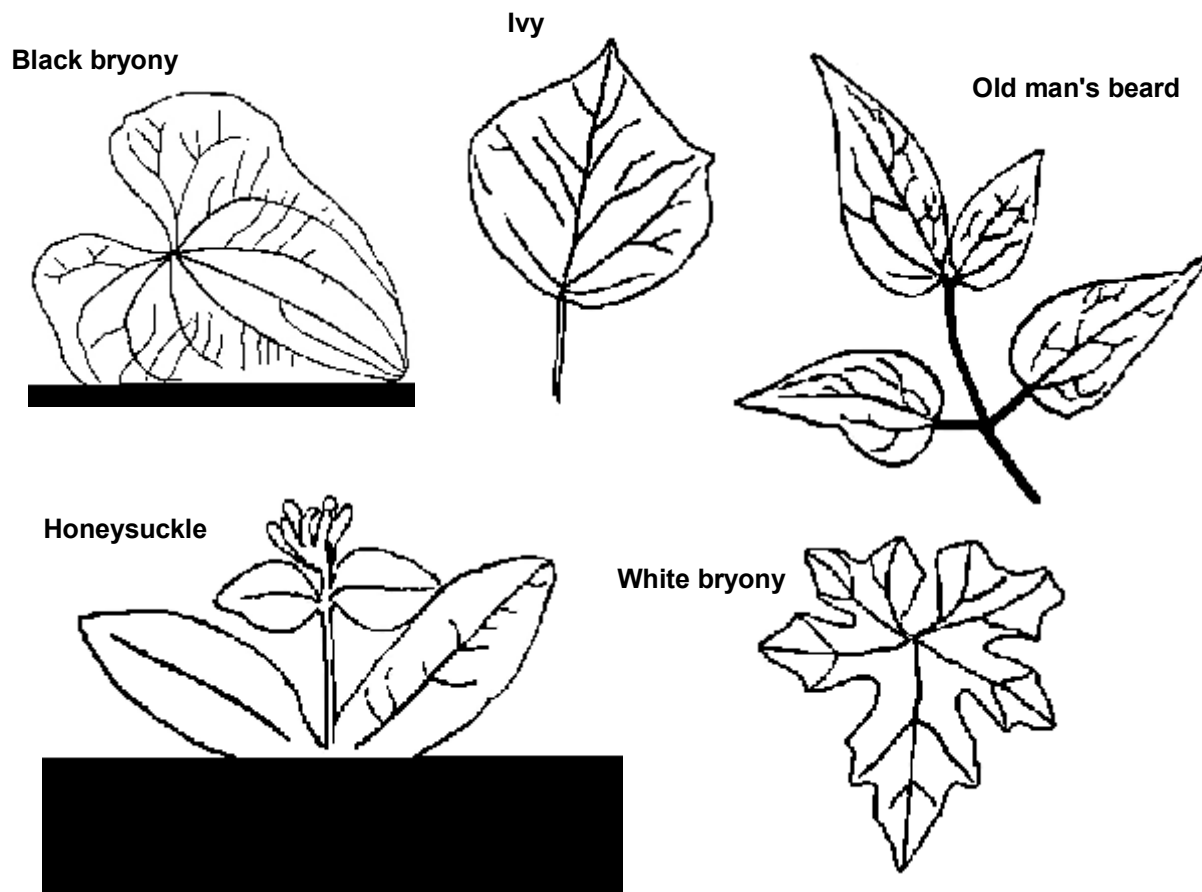
Black bryony: Leaves bright shiny green, up to 10cm (4in) long. Flowers tiny, 3-6mm (1/8-1/4in) with 6 greenish yellow petals. Poisonous red berries.

Honeysuckle: Opposite leaves dark green above, up to 6cm (2.5in) long. Flowers yellowish and slender and highly aromatic.

Ivy: Alternate leaves dark green, thick and glossy, shape variable.

Old man's beard: Opposite leaves with one terminal leaflet followed by opposite leaflets up to 5-10cm long (2-4in). Fruits make dense whitish feathery clusters.

White bryony: Leaves up to 15cm (6in) long. Flowers small, 10-20mm across (2/5-5/7in), with 5 greenish yellow petals.



Leaves with smooth margins

Beech: Alternate leaves up to 10cm long (4in) with wavy margins and a fringe of silky hairs.

Dogwood: Stem growing generally upright. Opposite leaves up to 8cm long (3in). Prominent unbranched veins running towards the tip of the leaf.

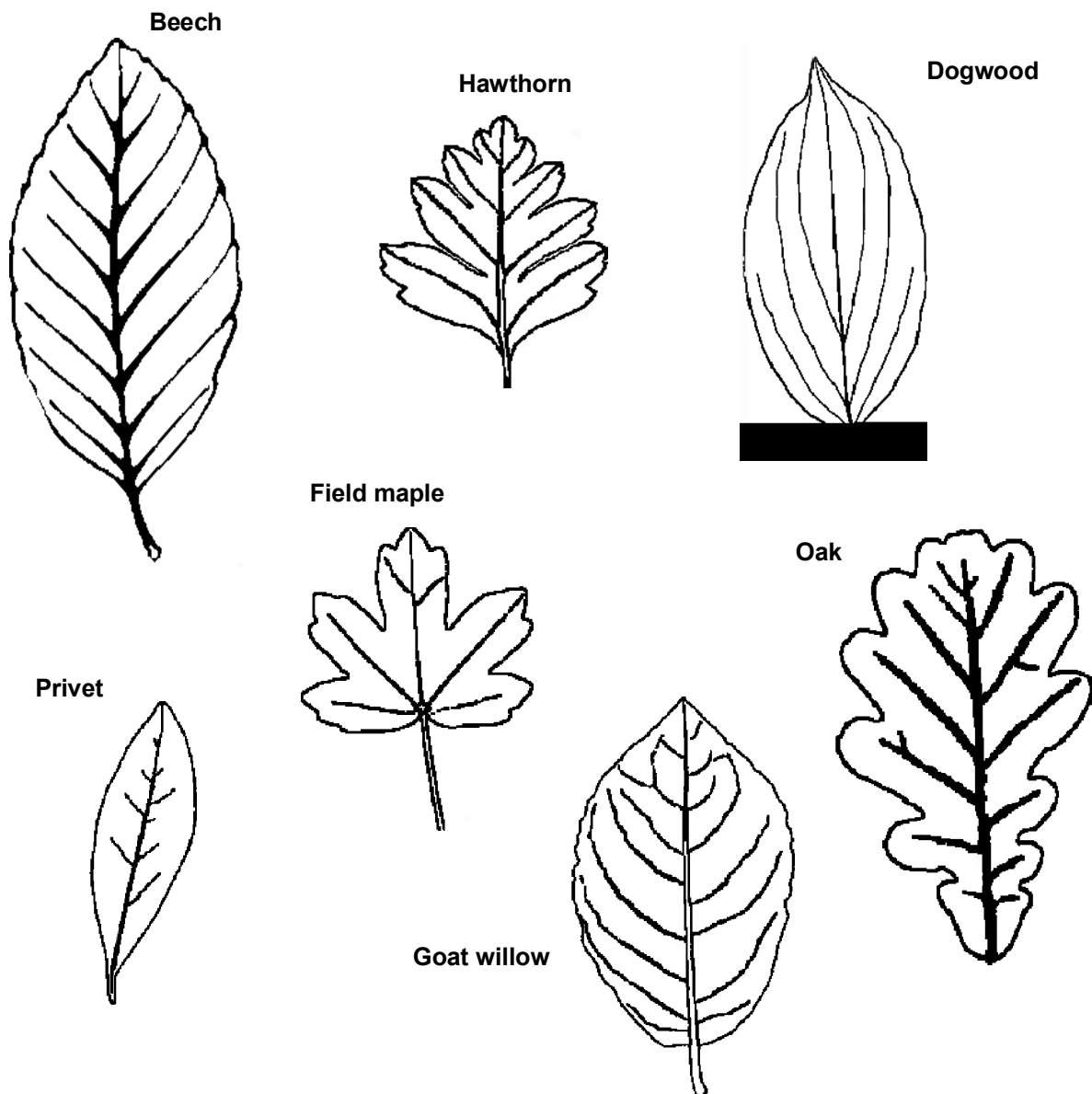
English oak: Alternate leaves with short stalk and ear-like lobes at the base. Acorn with long stalk.

Field maple: Opposite leaves up to 12cm long (5in) with 5 rather blunt lobes.

Goat willow: Alternate leaves up to 12cm (5in). Dark green and 'leathery' on top, grey underneath with short twisted point at tip.

Hawthorn: Alternate leaves 3-5cm long (1-2in). Flowers with 5 petals, white or pink (May).

Privet: Opposite leaves thick and glossy, up to 4cm long (1.5in).



Leaves with toothed margins

Ash: Opposite leaves with 3-6 pairs of leaflets (+1 one terminal) each up to 12cm (5in) long. Lower surface paler than upper side.

Blackthorn: Alternate narrow leaves up to 3-4cm long (1-1.5in). Branches often terminate in spiny twigs. Early white bloom, small dark blue plum-like fruits (sloe).

Crab apple: Alternate leaves up to 11cm long (4.5in), smooth on both sides when fully open (leaves of **cultivated apple** usually downy underneath). Branches and twigs usually spiny.

Dog rose: Alternate leaves with 5-7 leaflets 15-40mm (3/5-1.5in) long. Stem with strong curved thorns, 15mm (2/5in) wide at the base (**Field rose** has slender straighter thorns, 5mm (1/5in) and hairs on the main vein beneath). Fruits egg-shaped, red (rose hips).

Elder: Opposite leaves with 2-3 pairs of leaflets (+1 terminal) each up to 12cm (5in) long. Slightly hairy underside.

Hazel: Alternate leaves pale green and very soft, up to 10cm long (4in).

Hornbeam: Alternate leaves up to 12cm long (5in) with doubly toothed margins and prominent veins.

Purging buckthorn: Opposite leaves up to 6cm (2.5in) long. The conspicuous veins converge towards the tip of the leaf. Flowers small, greenish, fragrant, with 4 petals.

Spindle: Opposite leaves up to 10cm (4in) long. Small flowers, star-shaped with 4 petals, yellowish-green on long stalks. Fruits 4-lobed, bright pink on long stalks.

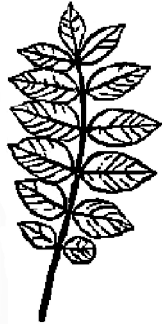
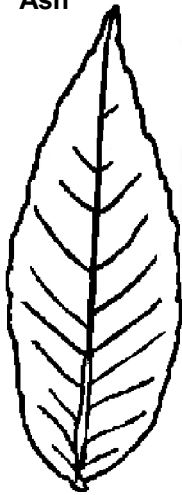
Sycamore: Opposite leaves up to 18cm long (7in).

Wayfaring-tree: Opposite leaves greyish-green, thick and wrinkled, up to 14cm long (6in).

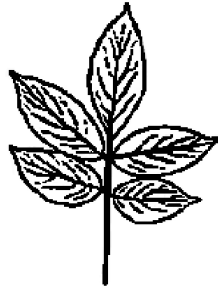
Wild cherry: Alternate leaves up to 15cm (6in) long. Underside downy on the veins, stalk with 2 glands near the leaf. Twigs smooth and red.

Wych elm: Rough alternate leaves, up to 12cm (5in) long. Leaf base unequal with long side overlapping the leaf stalk (no overlap in **English elm**). Fruits borne in dense clusters of oval papery wings up to 2cm (1in) long.

Ash



Elder



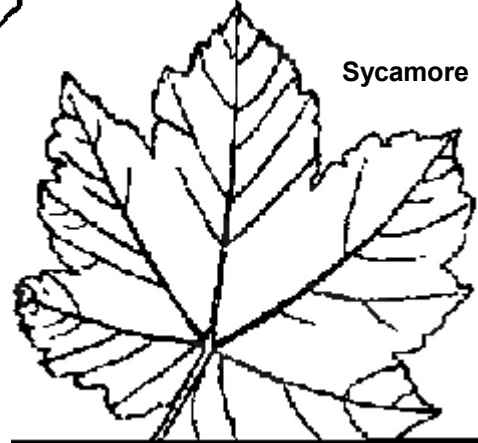
Dog rose



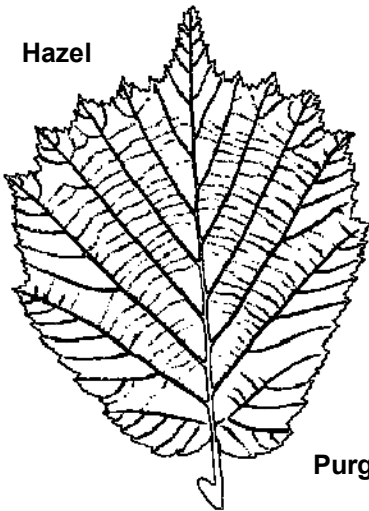
Wych elm



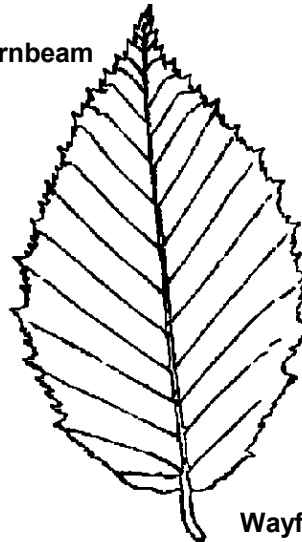
Sycamore



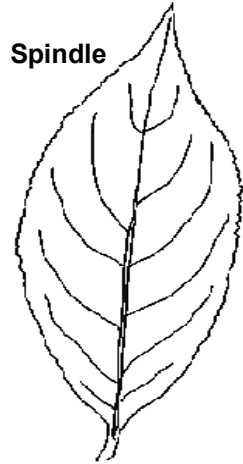
Hazel



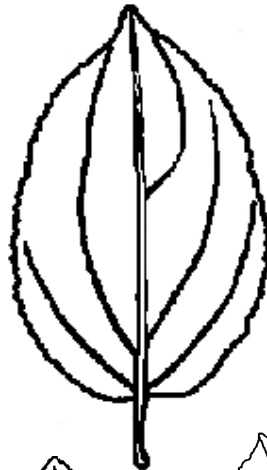
Hornbeam



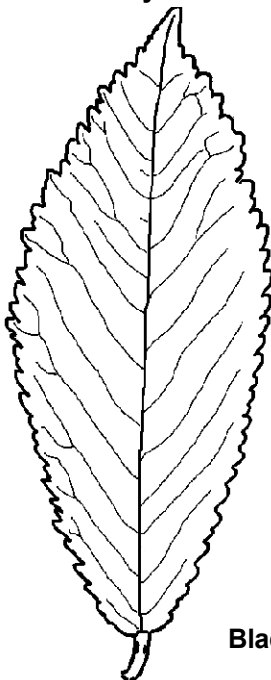
Spindle



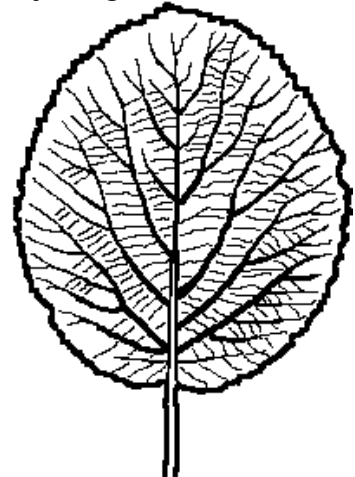
Purging buckthorn



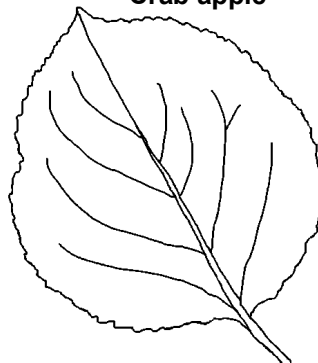
Wild cherry



Wayfaring-tree



Crab apple



Blackthorn



Hedgerows in the garden

Hedgerows need not be restricted to the farmed countryside and can be planted in towns, along roads and in gardens for the benefit of wildlife everywhere. Just as they do in the countryside, hedgerows in the garden provide shelter and food for birds, butterflies and others and help defining boundaries and maintain privacy.

Planting and care

Planting is done in winter (November to March) as long as the ground is not frozen. Seedlings should be planted as soon as possible after they have been obtained (from a local nursery or by mail order). They can be planted in a single row or in two staggered rows, allowing 30 to 50 cm (12 to 20in) between plants. Water generously after planting and cover the ground with a good layer of mulch (shredded wood, or bark) to keep moisture in, insulate and stop weeds growing.

The hedge should be trimmed annually in the first 2 to 3 years to encourage growth but afterwards a lighter trimming regime will benefit wildlife (see chapter: Hedgerow management). As for countryside hedgerows, do not trim during nesting season (March-September) and favour February cutting. It is an offence under Section 1 of the Wildlife and Countryside Act of 1981 intentionally to take, damage or destroy the nest of any wild bird while it is in use or being built.

Choice of Species

The first consideration when selecting species for a hedgerow is that the selected species be adapted to the local type of soil and weather conditions, and that they be in keeping with the surrounding area. If you live in Overton, choosing species in the list of shrub species found in our hedgerow survey will ensure your hedgerow meets these criteria.

In order to choose the appropriate species, before planting a hedgerow it is important to determine what purpose it is expected to serve: species with abundant and fragrant bloom attract butterflies and other insects, species producing berries provide food for birds in autumn and winter, nuts are preferred by mice, thorny species keep unwanted visitors out (and residents in!), evergreen species provide a screen year round. Naturally, planting mixed species provides the most diversity and the most benefits.

The table below summarizes the main features of some of the species that would be at home in Overton.

<i>Species</i>	<i>Features</i>
Beech	Most often seen as big trees but can be trained as hedge (should retain leaves in winter).
Blackthorn	Grow fast and makes dense thorny hedges. Good for insects in early spring and provides food for birds in late winter (when sloe have been soften by frost).
Crab apple	Best grown as tree since trimming prevents fruit production.
Dogwood	Colourful red twigs in winter. Can be invasive.
Field maple	Fast growing, pretty autumn foliage.
Hawthorn	Make dense thorny hedge. Excellent for all wildlife. Very pretty early bloom.
Hazel	Slow grower. Coppice well. Produces nuts for mice (and people!)
Holly	Slow grower but is evergreen and prickly. Avoid trimming. Plant female specimens to obtain berries (+ a few male ones if there are not any in the area).
Honeysuckle	Flowers very attractive to insects. Can be invasive. Plant only on well established hedges.
Privet	Evergreen and dense. Flowers good for butterflies. Poisonous.
Spindle	Grow fast. Good for insects. Pretty berries but poisonous although robins love them (they regurgitate the poisonous seeds). Not to be planted near beet or bean crops as it is a winter host of beet and bean aphids.
Wayfaring-tree + Guelder rose	Flowers produces plenty of nectar and pollen attractive to insects. Can be invasive, need space.
Yew	Slow growing but long-lived. Often seen as large trees but can be grown as hedge although it will not produce berries if trimmed often. Poisonous.

Surveys

If you have an established hedgerow in your garden, why not survey it to compare your results with those of our survey? The Overton Biodiversity Society would be very happy to receive copies of garden hedgerow surveys to add to the existing set of farmland surveys. Surveying your hedgerow(s) is quick and easy with the form overleaf.

Hedgerow survey form

Name: _____

Date: _____

Location (grid reference number, address or diagram):

Side surveyed (with your back at the hedgerow, what is the compass direction ahead?):

N / E / S / W

HEDGE CONTEXT

-What is on the other side of the hedgerow? _____

-What does the hedgerow connect with at each end (e.g. another hedgerow, a wall, a road, a field...) Left end: _____

Right end: _____

HEDGE STRUCTURE

-Average height: _____

Length: _____

-Average width at base: _____

General condition: _____

(dense, few gaps, many gaps, thin at the base)

TREES

-Species list and numbers:

SHRUBS

-Species list (and % of hedgerow covered):

ANIMALS (insects, birds, mammals...)

Hedgerows and the Kitchen

Hedgerow flowers and fruit are not not only good for animals, they are good for us too...

Sloe gin

You will need: 450g/1lb sloes picked in Oct-Nov, 225g/8oz caster sugar and 1 litre/1¾ pint gin.

Method: (1) Prick the tough skin of the sloes all over and put in a large sterilised jar. (2) Pour in the sugar and the gin, seal tightly and shake well. (3) Store in a cool, dark cupboard and shake every other day for a week. Then shake once a week for two months. (4) The sloe gin will now be a beautiful dark red and ready to drink, although it will still improve with keeping.

Variation: make blackberry brandy in the same way, substituting blackberries for the sloes and brandy for the gin. Blackberries do not need pricking.

Elderflower cordial

You will need: 30 elderflower heads, 6 pints (approx. 3 litres) of boiling water, 2lb (900g) caster sugar, 1 packet of citric acid (available from chemists), 2 unwaxed oranges and 3 unwaxed lemons.

Method: (1) Gently rinse over the elderflowers to remove any dirt or little creatures. (2) Pour the boiling water over the sugar in a very large mixing bowl. Stir well and leave to cool. (3) Add the citric acid, the oranges and lemons sliced, and then the flowers. (4) Leave in a cool place for 24 hours, stirring occasionally. (5) Strain through some muslin and bottle.

Blackberry pudding

You will need: 110g/4oz butter, 110g/4oz caster sugar, 110g/4oz self-raising flour, 2 eggs, splash of milk and 55g/2oz blackberries. **For the sauce:** 55g/2oz blackberries, 30g/1oz caster sugar and splash of red wine.

Method: (1) Blend the butter and caster sugar together in a food processor. Add the flour, eggs and milk and blend lightly to combine. (2) Add the blackberries and blend on "high" to combine. (3) Grease a small pudding dish and pour the sponge mixture in. Cover with cling film and microwave on full power for four minutes. (4) To make the sauce, heat the blackberries, sugar and wine in a small pan for 3-4 minutes. (5) Turn the pudding out onto a serving plate and spoon the sauce over to serve.

Further reading

The Illustrated History Of the Countryside (2003). O. Rackham. Orion Publishing Co (UK). ISBN 0297843354.

Pictorial History Of Overton (1994). R. Oram. Andover Advertiser. ISBN X102168644.

The Hedgerows Regulations (1997). The Stationery Office Limited. ISBN 0110644581. See www.opsi.gov.uk.

Hedgerow Survey Handbook: a standard procedure for local surveys in the UK (2002). C.J. Bickmore. Countryside Council for Wales, Bangor. ISBN 1861691084. See www.defra.gov.uk.

Hedgerows (2002). A. Brooks & E. Agate. BTCV. ISBN 0946752176. See www.btcv.org.