

Healthy hedgerows on your land

Healthy hedgerows benefit farmers, give life support to wildlife and provide many public and environmental benefits. You can manage your hedgerows to increase farm profitability, save money, reduce risks, help the environment, and generate income.

Healthy hedgerows

We want to help farmers and landowners by providing free management advice on how to create healthy hedgerows. This leaflet explains why and how to manage your hedgerows to make sure they're in a good condition to reach their economic, environmental and ecological potential.

As a conservation charity, our reason for focusing on hedgerows is their value to wildlife - but healthy hedgerows also benefit the environment and can provide financial benefits to farmers.

Useful hedgerows

You may value your hedgerows for crop protection and pollination, as a stock barrier, a livestock shelter, a wildlife haven, a source of income or as a landscape feature. Keeping hedges healthy maximises all these benefits and ensures they thrive. Of course, the way you manage your hedgerows will reflect what you use them for. All hedgerows need to be managed on a cycle if they're to be viable in the long term, but there's plenty of flexibility in this cycle for your hedgerows to suit your farm and your needs.

We know that the cost of hedgerow maintenance can be a burden, especially where a hedgerow isn't fulfilling its economic potential. But it's easy to underestimate the role they play on your farm; healthy hedgerows offer a better chance of generating a financial return. Luckily, sometimes the best action for the hedge is also the most cost effective.

A useful, profitable hedge stands the best chance of surviving in the long term.



In this leaflet



The benefits of healthy hedgerows on your farm



Top tips for hedgerow management



The hedgerow management cycle



Surveying to health check your own hedgerows

Why are we worried about hedgerows?

Hedgerows are one of our country's most widespread and valuable habitats, with great cultural and historical value. But their future can't be taken for granted.

Last century tens of thousands of miles of hedgerows were lost, making the ones that remain all the more valuable. Happily the rate of direct removal has drastically reduced in recent years, and it is encouraging to see new hedges being planted. However, many hedges are still at risk through the way they're managed.

Hedgerows need management or they turn into a line of trees, but managing them requires working with their natural lifecycle. It is impossible to keep a hedgerow at the same point in its lifecycle indefinitely without the structure declining.

It's vital that we manage our remaining hedgerows in a way that ensures their survival long term. There's a lot at stake. Our simple management advice can provide you with the knowledge you need to do that.

Threats to hedgerows



Lack of rejuvenation is the biggest threat to hedgerows. Traditionally, hedges were periodically laid or coppiced to keep them stockproof; although this is not always needed today, rejuvenation remains essential for hedge survival. Modern trimming can maintain density and slow maturity, but hedges cannot be trimmed indefinitely without decline and eventual loss.



Over-trimming can weaken hedges over time. While careful trimming encourages dense branching and prevents hedges becoming tree lines, without periodic rejuvenation hedges lose base growth, gaps appear, and decline follows.



Lack of management also threatens hedgerows. Although short periods without trimming can benefit wildlife, long-term neglect can turn hedges into gappy tree lines. Rejuvenation resets the hedge, allowing it to regenerate and continue its lifecycle.

Both over-trimming and lack of management are symptoms of the main cause of hedge decline: failure to rejuvenate hedges at the right time.



**Soil
protection**

**Reduce
pollution**

Shelter

The benefits of healthy hedgerows

Flood control



Crop
protection

Wood fuel

Wildlife

Pollinators

Pest control

Shade

people's
trust for
endangered
species

What have hedgerows ever done for us?

As well as their value to wildlife, they deliver benefits that can save you money and increase the profitability of your farm.

Crops

Wind damage - hedgerows can provide a wind break and increase crop yields by reducing damage that cold strong winds do such as:



crop lodging which makes them much more difficult to harvest and dramatically reduce yield



premature flower and fruit shedding



shoot damage



chilling injuries

Reduced pesticide use -

hedgerows increase populations of predator and parasitic species which are the natural enemies of crop pests. Farmland birds and predatory invertebrates such as spiders, beetles and wasps all feed on, and therefore limit, pest species.

Pollinators - hedgerows help support diverse pollinators, essential for crop pollination and crop yields. They provide food for pollinators throughout the year when crops aren't in flower, as well as places to nest.

Soil

Hedgerows reduce soil erosion by:



reducing surface wind speeds



acting as a barrier to water runoff



helping stabilise the soil surface with their roots

Tree and shrub roots grow deeper than crops to access nutrients deeper in the soil profile. This process cycles nutrients into the topsoil.

Shelter creates warmer soils, extending the growing season.

Livestock

Shelter - livestock without shelter have a higher mortality and require more food. Leggy hedges with no cover at the base, can act as a wind tunnel, intensifying wind at lamb height. Shelter increases lamb survival rates, reducing the effect of wind chill and hypothermia.

Shade - in the summer months, heat stress reduces milk yield in dairy herds and affects fertility, growth rates and disease resistance.

Hedge size, density, number of trees and location all impact value as shade and wind shelter.

Diet diversity - supplementary feeding on native hedgerow plants can increase livestock gut microbial diversity, help immune function, and improve feed conversion efficiency.

Biosecurity - thick, stock-proof hedges could help create barriers to the spread of disease such as bovine TB by reducing animal-to-animal contact between farms.

Parasitic load - livestock may self-medicate by browsing on common species found in hedgerows. Some leaves have anti-parasitic properties, rough surfaces that act as a rasping plug or can cause a purging response.

Water & flood control

Water infiltration - the quality of the soil under a hedge allows it to store more water and stores it faster, preventing and delaying its movement downslope.

Hedge roots speed up water absorption. This enables the soil to act like a sponge soaking up flood water rather than allowing it to run off the surface.

Tree and hedgerow roots run deep, allowing a larger, deeper area of the soil profile to act like a sponge, thus absorbing more water, allowing for slow release later.

Water uptake - trees and shrubs remove water from soils by absorbing and transpiring it.

Reducing silt in waterways - silted waterways are more prone to flooding. Much of the silt in our waterways is field run off. Hedges and hedgerow trees help prevent soil erosion and stop sediment reaching our streams and rivers.

Slowing flood water - by slowing water flows, trees reduce the impact of flooding, allowing more time for soil infiltration, and time to respond to flood warnings.

Our environment

Carbon storage - hedgerows store carbon above ground but also in their roots and the soil below and around them. Old hedges have been shown to

store more carbon than forest per hectare, so can help us in our fight against climate change.

Pollution - hedgerows reduce the amount of fertilisers, pesticides and sediment that reach watercourses. They act as a physical barrier, increasing infiltration to the soil, and recycle nutrients through the trees, shrubs and other plants. They also improve air quality by capturing pollution particles.

Other

Sustainable wood fuel - hedges and hedgerow trees can provide sustainable wood fuel, without losing land from production. This can be used or sold as fuel or timber.

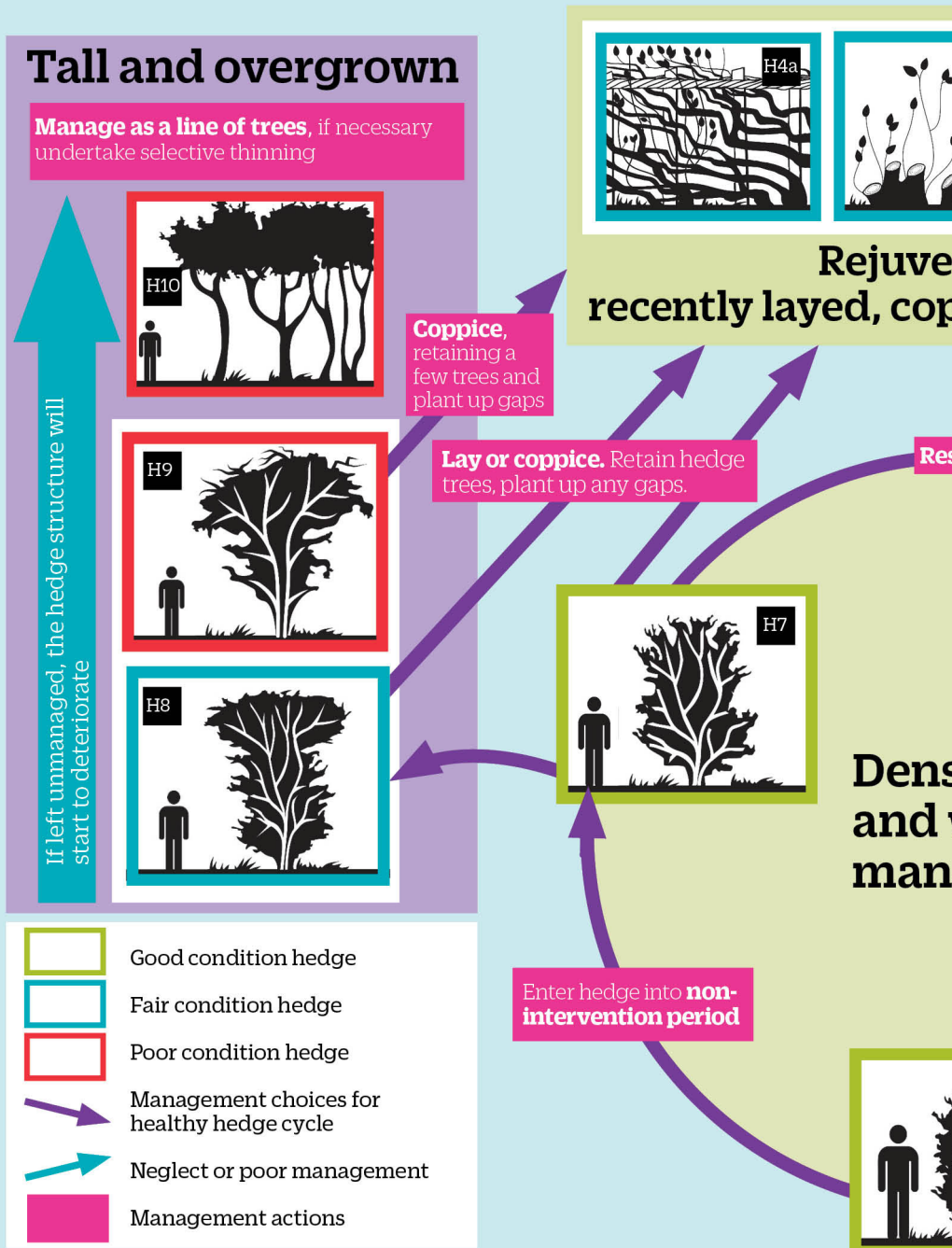
Pollarding, a traditional tree management technique, can provide both wood fuel and animal fodder.

Privacy - hedgerows can act as a screen, creating privacy, shielding farm assets and buildings from public sight. Hedges and dead hedges can also be used to keep people to footpaths and protect vulnerable livestock from dogs.

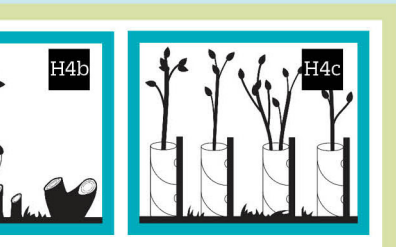
Sense of place - hedgerows are a defining feature of our countryside, with deep and significant cultural and historical importance. They tell the story of our farming traditions over many centuries and add to regional distinctiveness. They make farms more attractive which may help with farm diversification projects.

Wildlife - hedgerows provide a home, food, shelter and corridors to travel for wildlife. 70% of the UK is agricultural land so the importance of your hedgerows for wildlife cannot be overstated.

Hedgerow management cycle



Hedgerows are a dynamic system - it isn't possible to keep them at exactly the same point indefinitely. Managing them on a cycle ensures their health and long term survival.



nated
opiced, or planted

shape

**Frequent
trimming** in
first five years

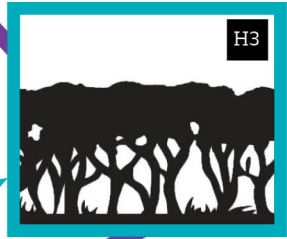
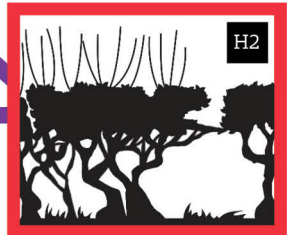
Coppice, retain
a few trees, plant
up gaps, control
invasive species

**“let up” for
laying** plant
up any gaps

se
well-
aged



Over-trimmed



If trimmed to the same level repeatedly
the structure will start to deteriorate

Raise cutting height and
width slightly with each cut.
Trim on a two or preferably
three year **rotation**.

No matter what hedge
you're starting with,
there's a way to bring it
back to the healthy
hedge cycle with good
management.



Key to Hedgerow Management cycle

Over-trimmed



H1 Over-trimmed

-  Heavily over-trimmed, hard knuckle at trim line
-  Many gaps, sparse stems
-  Bases may be gnarled or rotting
-  Usually low and narrow
-  May be invaded by elder, sycamore or other invasive species
-  Lacks branches and foliage in the lower parts
-  Closely and frequently flailed to the same line



H2 Over-trimmed

-  Over-trimmed, hard knuckle at trim line
-  Infrequent stems
-  May be developing mushroom shaped growth
-  Often low and narrow
-  Closely and frequently flailed to the same line
-  May lack branches and foliage in the lower parts
-  Base canopy may or may not extend to the ground



H3 Over-trimmed

-  Over-trimmed, hard knuckle may be starting to form
-  Still has frequent healthy stems
-  Base canopy may or may not extend to the ground

Rejuvenated



H4a Rejuvenated - recently laid

-  Hedge stems cut at base and laid on their sides.
-  Depending on time since being laid, significant re-growth may have grown from the base. The horizontal stems (alive or dead) should still be visible
-  Approximately laid within the last five years



H4b Rejuvenated - recently coppiced

-  Stems all cut at ground level, stumps may be visible
-  Significant regrowth may be visible from cut bases
-  Approximately coppiced within the last five years



H4c Rejuvenated - recently planted

-  Approximately planted within the last five years
-  Stems may still be protected by tree guards

Dense and managed



H5 Dense and managed

- Healthy dense hedgerow
- Have obviously been trimmed in the fairly recent past. (may have shoots protruding but retains basic shape)
- Frequent healthy stems
- Dense amongst most of their length
- About 2m or more in height

H6 Dense and managed

- Healthy dense hedgerow not recently trimmed.
- May have 'straggly' appearance with protruding woody branches
- May be in a non-intervention stage of management
- May be on a longer trim rotation, e.g. three year cut
- About 3m or more in height

H7 Dense and managed

- May have a straggly appearance with numerous long woody branches protruding from the main body
- Usually still quite dense, but increasing volume may start to shade the lower branches
- Has frequent healthy stems, about 4m high.
- This is an unmanaged, overgrown version of H6

Tall and overgrown



H8 Tall and overgrown

- Mature hedgerow, tall and leggy
- May have spreading tops
- Not been trimmed for many years
- Lacks significant foliage in the lower parts
- Stems still healthy, but may be infrequent and getting too large to lay

H9 Tall and overgrown

- Over-mature hedgerow, tall and leggy
- Spreading tops might be dying back
- Collapse possible
- No significant woody foliage in the lower parts
- May be developing gaps

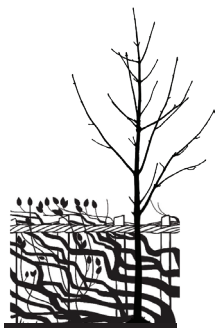
H10 Tall and overgrown - line of trees

- Hedgerow has developed into a line of trees
- Very little, if any, woody undergrowth

How to establish trees in existing hedgerows

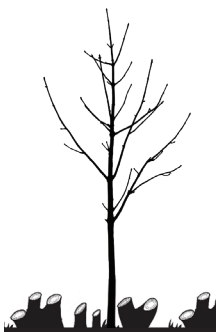
Suitable for hedges already in need of rejuvenation

Establish trees from existing hedge plants



Leave suitable stems standing when hedge is next layed

- ✓ No need to buy, plant, water, protect with spirals
- ✓ Retains local genetic diversity heritage of your hedge
- ✓ Tree already established, rooted, higher crown than subsequent regrowth of hedge below
- ✗ Limited to whatever suitable stems you find.
- ✗ Won't increase the diversity of single-species hedgerows
- ✗ Might be vulnerable to windthrow on exposed sites



Leave suitable stems standing when hedge is next coppiced

- ✓ No need to buy, plant, water, protect with spirals
- ✓ Retains local genetic diversity heritage of your hedge
- ✓ Tree already established, rooted, higher crown than subsequent regrowth of hedge below
- ✗ Limited to whatever suitable stems in you find.
- ✗ Won't increase the diversity of single-species hedgerows
- ✗ Might be vulnerable to windthrow on exposed sites



Plant new trees

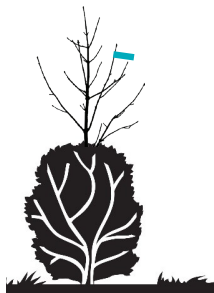


Plant a tree in an existing hedge gap

- ✓ Can be used to increase the diversity of a single- species hedgerow
- ✓ Avoids young tree competing with surrounding hedge for light/water
- ✓ Doesn't depend on having existing suitable stems in the hedge
- ✗ Hedges with extensive gaps tend to be ones requiring rejuvenation
- ✗ Requires purchase, planting, protecting and possibly watering to establishment.

It's not easy to plant and grow new trees in existing hedgerows, as they will be competing for light and water with the roots of established hedges. The methods below are good options for establishing new trees, whether it's planting new, or establishing from what is already there, as part of a hedge rejuvenation or within existing hedge structures.

Suitable for hedges that are not yet in need of rejuvenation



Tag a suitable existing stem and spare it from the trim

- ✓ No need to buy, plant, water, protect with spirals
- ✓ Retains local genetic diversity heritage of your hedge
- ✓ Avoids young tree competing with surrounding hedge for light/water
- ✗ Limited to whatever suitable stems you find.
- ✗ Won't increase the diversity of single-species hedgerows

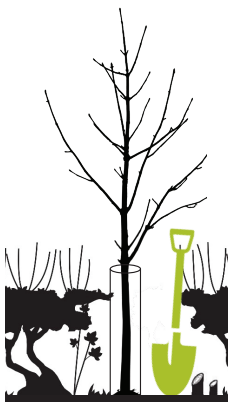
Coppice a notch in the hedge and select suitable stem from the regrowth to establish as a tree

- ✓ No need to buy, plant, water, protect with spirals
- ✓ Retains local genetic diversity heritage of your hedge
- ✓ Avoids young tree competing with surrounding hedge for light/water
- ✓ Doesn't depend on having existing suitable stems in the hedge
- ✓ Surrounding coppice hedge can be 'raised' to re-establish hedge either side of tree
- ✗ Won't increase the diversity of single-species hedgerows



Coppice a notch in your hedge and plant in the gap

- ✓ Doesn't depend on having existing suitable stems in the hedge
- ✓ Avoids young tree competing with surrounding hedge for light/water
- ✓ Surrounding coppice hedge can be 'raised' to re-establish hedge either side of tree
- ✗ Requires purchase, planting, protecting and possibly watering to establishment.



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Hedgerow management top tips

These simple management tips will help your hedgerows thrive. If your hedgerows are managed by contractors, please share this information with them and discuss how you want your hedgerows to be trimmed.

Some measures will save you time or money, others may cost more or require increased labour, but in the long term we think these measures will be good choices for you, and hugely positive for our native wildlife.

	Do		Don't
Lifecycle	 Use the hedgerow management cycle to guide your management decisions and planning. All hedges will require rejuvenation (laying or coppicing) at some point, but, with careful management, you can keep a hedge healthy for 40 or more years before you need to rejuvenate it. The hedge management cycle can be followed to provide wood-fuel which can generate income.	A hedgerow is a living system and needs flexible management	 Hedgerows cannot be kept at the same point of their lifecycle indefinitely without damaging their structure and threatening their future.
Gaps	 Plant up gaps in your hedgerow with locally suitable species. This is a good chance to increase the number of woody species, making it more robust, and better suited for wildlife.	Gaps in hedges reduce their value both to us and to wildlife	 Gaps are often a sign that a change in hedge management is needed. They tend to get worse if the management approach isn't altered.
Trees	 Allow new young standard trees to grow; either select and protect suitable young trees, coppice a section and select a new stem from the regrowth, or plant a tree directly. Gaps in hedges are often a good opportunity to plant new hedgerow trees.	Hedgerows provide great opportunities to increase the number of trees without taking up more land	 Existing trees can be damaged or lost if hedge trimming is not done with care.

Hedge cutting

	Do	Don't
When	✓ Cut hedges as late in the cutting season as you can, ideally in late winter if and where conditions allow. This provides hedgerow fruit for wildlife over winter.	✗ Cutting hedges in late summer/early autumn removes most of the fruit that could help prepare wildlife for winter. Avoid cutting hedges in bird breeding season.
How often	✓ Cut hedges every two or even three years. This allows the hedge to provide food for wildlife. Cutting each hedge every third year can mean cutting only 1/3 of your hedges in any one year, so cutting less frequently can also save you money	✗ Cutting hedges every year greatly reduces the amount of food a hedge can provide for wildlife. It hastens the structural decline of your hedge which can be expensive to repair. You may have to structurally rejuvenate (lay or coppice) the hedge or plant up gaps more frequently.
How	✓ Raise cutting height and width slightly with each cut. Trim on a two or preferably three year rotation.  When they outgrow their space, they can be reshaped (or rejuvenated if they are losing cover at the base). Cutting in an 'A' shape improves the quality of the hedge habitat.	✗ Cutting hedges at the same level repeatedly causes scar tissue, forming a 'hard knuckle' at the trim line. Over time, cutting to the same height damages the structure of the hedge, which may lose vegetation at the base, and develop gaps as the shrubs struggle and die.
	Wildlife relies on hedgerows for food in winter Blossom and fruit grow on second year wood on most hedgerow shrubs Cutting hedgerows at the same point indefinitely will damage their structure	

Where to establish hedge trees – the right tree in the right place

Hedgerows have historically been a valued, working part of farms. Hedgerow trees have historically been valued, working part of farms. The number of hedgerow trees has been in sharp decline through disease and lack of establishment. But hedgerow trees are as valuable as ever, and with a few simple steps, you can establish and maintain healthy trees for a long time to come. The number of hedgerow trees has been in sharp decline but with a few simple steps, you can establish and maintain healthy trees for a long time to come.

The presence of trees improves a hedgerows value as a habitat, as a carbon store, and in the right place can benefit your farm through additional shade and shelter. It's important to consider which species to choose to become trees and where to establish them so that they can have maximum benefit, with minimum disruption to your farm.

Establishing a diversity of hedge tree species is the best way to meet the varied food and nesting needs of wildlife. Using different tree species also offers flexibility; each differs in size, shape and structure which provides flexibility in finding the right tree for the right position/hedge.

- A.** Large hedge trees like oaks or beech trees in east-west aligned hedges cast valuable in- field shade for livestock.
- B.** Large hedge trees in north-south hedges cast most of their shade on the hedge not the fields either side.
- C.** Small hedge trees such as crab apple, damson, hawthorn or rowan trees in east-west hedges will cast much less shade in the field, if shading is not desired.
- D.** Trees in hedges with field margins will reduce any water/shade impact on crops.
- E.** Trees in hedges next to farm tracks will help reduce water/shade crop impact.



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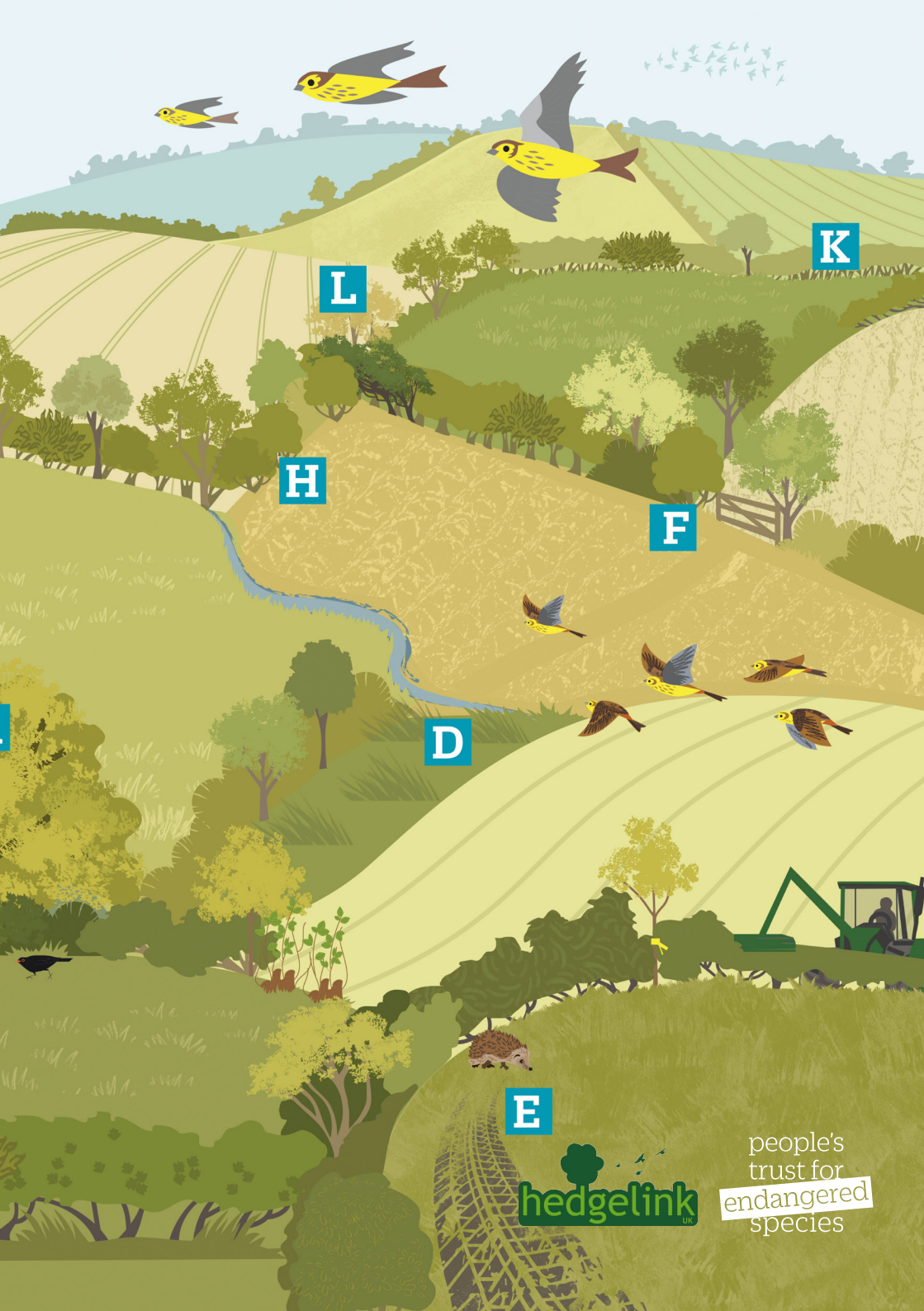
Forestry Commission

- F.** Trees clustered in hedge corners, gateways or anywhere where flail head would already be raised will minimise the additional trimming time (Take care to ensure trees won't limit machinery access as they grow).
- G.** Cluster trees where they create valuable extra shelter from prevailing wind.
- H.** Cluster trees in areas where trimming is already awkward and you might consider trimming less frequently. e.g. on steep or wet land.
- I.** For wildlife, it's valuable to cluster trees in hedges linking up patches of woodland or other habitat.
- J.** Avoid establishing many trees near naturally open areas with ground nesting birds. These can act as predator perches which may impact sensitive population
- K.** When planting new hedges you can plan hedgerow tree locations and species. If establishing a hedge tree that is likely to cast deep shade; such as oak, consider planting shade tolerant hedge species either side, like hazel or holly.
- L.** Hedge plants such as hawthorn and blackthorn are not very happy in heavy shade, they may get leggy stretching for the light or could be lost altogether if they're sat under an oak canopy. In hawthorn dominant hedges, think about planting trees that don't throw such deep shade, or smaller trees such as crab apple, rowan, hazel.

This resource is funded by the Trees Call to Action Fund in partnership with Hedgelink. The fund was developed by Defra in partnership with the Forestry Commission and is being delivered by the Heritage Fund.

Where to establish hedge trees





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UK

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Hedge management – why the need for change?

For centuries, hedgerows were managed in a cycle that included laying. Whether trimmed or browsed by livestock, hedges would periodically be layed to restore them as a stockproof barrier when they eventually got leggy or thin. But laying didn't just restore them as a stockproof barrier, it forced the hedge to reshoot from the base, providing the next generation each time.

A combination of reduced farm labour after the war, mechanised trimming, and alternative ways of keeping livestock in, meant that hedgelaying largely stopped. By stopping this practice, we also prevented hedges from producing new growth from the base and they declined structurally, losing condition.

Now, decades overdue their rejuvenation, many hedges are struggling and can only be restored through laying or coppicing. Having lost stems over time, they will also need restocking with new whips after being layed or coppiced.



Free hedge management app

You could be six questions away from healthy hedgerows



Healthy Hedgerows is a free hedge management app designed specifically for farmers. It's quick and simple to use, and gives instant management advice for each hedge surveyed.

While it might be easy to apply the hedge lifecycle to one or two hedges, to do this across a whole farm is more difficult. Which is where the speed and simplicity of this Healthy Hedgerows app comes in. It takes just six questions for this app to understand where in the lifecycle each hedge is and deliver management advice accordingly. This makes it entirely possible for busy farmers to update their hedge management plans across a whole farm.

Shelter, shade, pollinators, pest control, soil protection, flood prevention, diverse browse, wood-fuel, stock control, carbon storage, pollution absorption. Whatever you value your hedgerows for, healthy hedgerows do it better.

<https://hedgerowsurvey.ptes.org/healthy-hedgerows-survey>

In a nutshell: hedgerow management comprises of two different elements

Rejuvenation	Routine management
Essential to every hedge periodically to reset their succession and create a new lifecycle. Required every 15 to 40 years depending on routine management chosen. Non-negotiable: hedges die without rejuvenation.	What we do to a hedge in the years between rejuvenation. Trimming can build branching density and slow down succession, stretching the time between rejuvenation. Hedges can change between options during each lifecycle
 Hedgelaying	 Incremental trimming
 Coppicing	 Rotational trimming
 Gapping up	 No trimming (when in laying or coppice cycle)
 Planting	



Most UK nations have funding for hedge restoration and planting. In England, these are covered in the Capital Grants, in Wales, the small grant scheme.



You can often find alternative funding for hedge planting and gapping. Try Woodland Trust, Local council, water companies and other charities.



In England, routine management options are funded through the SFIs and Countryside Stewardship, in Wales, routine management is part of the Universal Actions.

You don't need to treat all your hedges the same.

A mixed approach can make hedge management easier for you and better for wildlife as all these methods create slightly different shape/size/density hedgerows, attracting a diversity of wildlife.

Will this also help wildlife?

Agricultural land covers over 70% of the country, and hedgerows are one of the best wildlife habitats within it. One study counted 2070 different species in just one hedgerow in Devon, so a healthy hedge can be an ecological powerhouse!

And happily, a natural side effect of managing hedges rotationally on a lifecycle, is that a farm will always have hedges at all the different stages; this means some shorter dense hedges, some taller wider hedges. And this really helps wildlife, which loves this diversity of hedge habitat.

Good hedges help wildlife in three main ways, they

- 🌿 are a physical home for nesting birds, small mammals and insects.
- 🌿 are a complementary habitat, providing shelter and food.
- 🌿 act as a wildlife corridor, connecting up other habitats across the country.

For more information about hedgerow management:

hedgerows@ptes.org

www.ptes.org/hedgerows



For almost every hedge condition, there is a reliable route to recovery – the key is understanding where the hedge is in its lifecycle.

1. Survey your hedgerows

Good hedge management starts with knowing the condition and life stage of your hedges. The free Healthy Hedgerows app from People's Trust for Endangered Species uses the Adams' Code 10-point hedgerow lifecycle to provide quick surveys and instant management advice.

2. Prioritise management

Managing a whole farm of hedges can be challenging. A 10-year hedgerow management plan can help you:

-  create and maintain healthy hedgerows
-  spread costly or intensive work over time
-  Plan grant applications
-  organise external support, such as hedgelayers

3. Find funding

Check available agri-environment schemes for support with routine management (trimming) and rejuvenation work such as laying, coppicing, and gapping-up. A long-term plan helps schedule grant applications effectively.

4. Communicate changes

Keep hedge-cutting contractors informed of any changes to trimming management. You can also find local hedgelayers through the National Hedgelayering Society "Find a Hedgelayer" map.

With thanks to Hedgelink www.hedgelink.org.uk, Robert Wolton and Nigel Adams for their advice and expertise.

For more information about hedgerow management:

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www.ptes.org/hedgerows

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