Devon hedge management 2: steeping (hedge laying) and coppicing

When you trim a typical Devon hedge this encourages re-growth just below the cut line but no new shoots lower down the stem, and after time gaps will inevitably develop. Steeping (or hedge laying as it is referred to outside Devon) and coppicing are rejuvenation techniques for thickening up hedges from the base and once more creating dense hedges which can serve as good stock proof barriers.

Steeping involves partially cutting through the base of the stems, bending them over until they are parallel to the top of the bank, and weaving or pegging them down. These laid stems, or steepers as they are known in Devon, remain alive and sprout new growth which, with appropriate management, will thicken and form a dense hedge. Alternatively, a hedge which has become too large to steep may be coppiced, a technique which involves cutting each shrub back to the base, removing all the growth, and allowing the stump, or stool, to re-grow.

This section explains how to rejuvenate Devon hedges using these techniques and gives guidance on where each may be appropriate. Guidance on the management cycle through which all hedges should be taken, and how to assess the management requirements of each hedge, is given in the section 4, *Devon hedges and modern farming, management cycle and fencing*.

The horizontal stem, or steeper, close to the bank top shows that this beech hedge has once been steeped. ©Robert Wolton

A hedge being steeped by Mick Jones in the Devon style. ©Robert Wolton

Why gaps develop in hedges

Gaps develop under and between the shrubs growing on Devon hedges because of:

- Repeated trimming over many years.
- Heavy shade created by tall growth.
- Grazing by farm stock preventing the growth of new stems from seeds or suckers.
- Old age, bushes losing vigour and becoming moribund.
- Damage to the underlying bank.

As hedges grow taller, the growth at the base tends to be shaded out, causing them to become thin low down. As the shrubs and trees mature, so the underlying bank becomes increasingly at risk from erosion by rain or stock and through the damage caused by trees rocking in the wind or even blowing over. All this makes these hedges poor stock-proof barriers and consequently less valued by farmers, although they still have some wildlife value.

The hedge on the left is ready to lay, with stems 4-5 m high, the one on the right is ready to coppice - here the major stems are 6-7 m high and over 15 cm in diameter at the base. ©Heather Harley

When to steep or coppice

Devon hedges are at an optimal size for steeping when 4-5 m high. Steepers of this size can be brought down in a controlled manner and generate sufficient material to create a fine steeped hedge, although shorter and taller hedges can still often be steeped (3-6 m).

With taller hedges (6-7 m), where most stems are over 15 cm (6 inches) diameter at the base, it is better to coppice most of the growth. This is the optimal size for harvesting firewood from hedges (see *Wood fuel from hedges* handbook).

General points

- Steeping and coppicing should be undertaken during autumn or winter months when the sap is not rising, even if there are still some leaves on the stems.
- Plant up any larger gaps with new saplings and ensure that they are effectively protected from stock, deer and rabbits, and do not become smothered by weeds.
- Alternatively, consider layering (encouraging laid stems to root where they touch the ground) to help fill any gaps. This may work particularly well for hazel.
- Leave suitable trees to grow on to maturity - they should usually be strong straight specimens that have not been previously damaged by cutting (see section 12, *Hedgerow trees*).
- To diversify shrubs present or to establish new hedgerow trees, plant new ones. Trees should normally be planted along the centre line of a newly steeped hedge, after it has been cast-up.
- Newly steeped or coppiced hedges may re-grow better if protected from grazing animals by fencing. See section 4, *Devon hedges and modern farming, management cycle and fencing* for guidance.
- Although steeping does not normally require a felling licence from the Forestry Commission, such a licence may be necessary for coppicing (see section 17 *The law and other protection*).

How to steep a Devon hedge

The procedure outlined below (steps 1-14) is the traditional way of steeping, as carried out when farm workers spent much of the winter months managing hedges and nowadays in steeping competitions. The technique is appropriate today for use by conservation volunteers or where a hedge is particularly important or prominent, and indeed anywhere that the traditional effect is required.

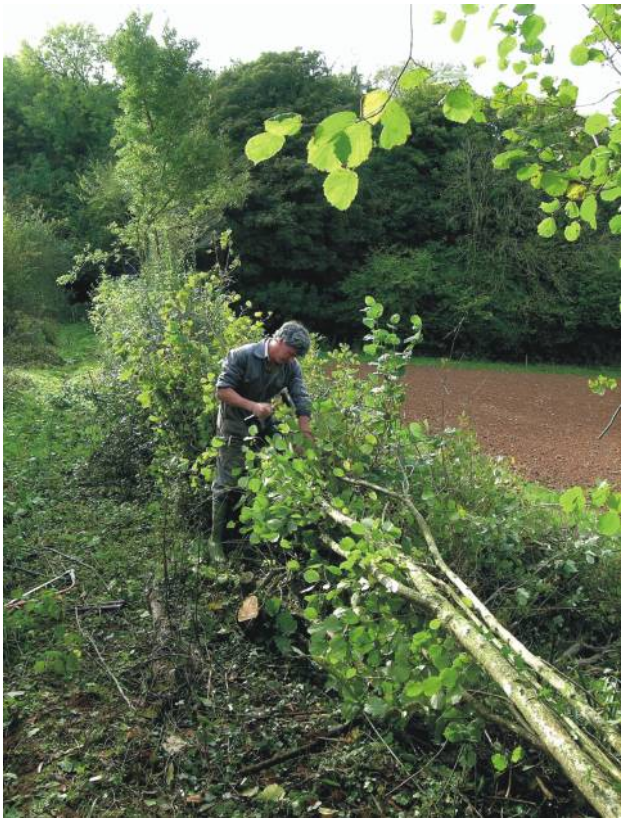
The speed of hedge steeping can be increased by not following all the traditional rules and still produce acceptable results. However, one rule that should never be broken is that the stem should be cut low down at the base.

1. If the bank is badly eroded, before steeping repair it by replacing soil, turf and stone facing, to restore the original level and profile. Bank maintenance and minor repairs of less than about 15 cm (6 inches) can, however, be carried out by casting-up soil from the base of the hedge after steeping. This process both increases the height of the hedge and lowers the adjacent field, making a much more stockproof barrier. For guidance, see section 9, *Maintaining and repairing turf and stone facing*.

2. Cut back any growth from the lower two thirds of the face of the bank, leaving potential steepers on the top (crown).

3. Remove all brambles, dead wood, old steepers and elder (this species causes gaps in hedges and does not steep well).

4. Select healthy clean-growing stems to retain for steeping. Keep a few extras in case of mistakes. Cut out the remaining ones. The best species for steeping are blackthorn, hawthorn, beech, hazel and oak. Second best are field maple, spindle, elm and willow. Less effective but acceptable where no alternatives exist are holly, ash, sycamore and alder.



Narrow hedge being steeped in the autumn by Tom Hynes. ©Robert Wolton

5. If the hedge is on a slope, start work at the top of the slope and lay your steepers uphill. Downward pointing steepers tend to die because sap rises upwards.

6. If possible, lay all steepers in the same direction. Only if the hedge has gaps wider than the height of the hedge should it be necessary to lay in both directions.

One side of this beech hedge has been steeped by George Pidgeon in the Devon style, the other will be soon. Note the steepers are all laid in the same direction, uphill. ©Robert Wolton

Well-made steeping cuts. ©Robert Wolton

7. If the hedge is large, or the canopy is heavy and dense, as is often so with holly and old hawthorn, you should thin the canopy before starting the steeping cut. By doing this you can untangle the hedge and make the steeper easier to bring down in a controlled manner.

8. Make an angled cut, about three quarters of the way through, at the base of each steeper. Test the readiness of the stem for steeping by applying gentle pressure while slowly thinning the hinge. The stem is ready when it is thin enough not to snap but thick enough to stay alive (often referred to as "the bark and a little bit of wood"). All steepers should hinge close to ground level, normally the top of the bank. Failure to do this will result in no new growth at the base where it is most needed. The larger the steeper, the longer the hinge should be.

9. Gently lower the steeper so that it lies along the top of the bank. If the cut splits downwards when lowering the steeper, the hinge thickness is correct. If it splits upwards, the hinge is too thick and a "hake's mouth" is formed (see photo). If this happens the projecting material should be cut off (it will rot anyway because no sap will reach it). The cleaner each cut is, the faster the wound will heal and the better the re-growth.

This stem was not cut through far enough before being bent over, resulting in the formation of a "hake's mouth". ©Robert Wolton

10. If the hedge is wide enough, the steepers should be laid along either edge at the top of the bank, leaving a gap between them, to create a double comb (see photo below). This will provide space for soil cast up from the base of the hedge when steeping is complete, the rows of steepers helping to retain the soil on top of the hedge. Steepers should not normally cross from one side of the hedge to the other unless there are gaps that need filling.

Here the steepers have been placed along the edges of the bank top by Mike Reed and Russell Woodham, leaving the centre clear, to create a double comb. ©Robert Wolton

A crook being driven by Roger Parris into the bank to secure steepers. ©Robert Wolton

11. Secure steepers by weaving them under each other, or use a crook - a hooked stick like a large tent peg cut out of the hedge, with a 1-1.2 m (3-4 foot) main stem and a 20 cm (8 inch) short stem. When knocked in, crooks should have the short arm uppermost and should firmly secure the steepers through being aimed at the centre of the bank. Smaller crooks can be used to temporarily hold larger steepers, to secure smaller ones or for layering.

12. Cut off the protruding stub, the heel, at an angle away from the steeper (to drip water away from the cut), to ensure that re-growth from the base is as low as possible.

13. Trim back any surplus twigs and small branches if the steeper is too wide or too tall for the final size of the hedge (30-45 cm (12-18 inches) above the bank). Those branches that protrude downwards after steeping tend to stop steepers lying tight on top of the bank, and to die. They should be cut off, although if you leave a short section you can form a spur behind which other steepers or twigs can be secured.

14. Maintain the bank by casting-up soil from the base, as mentioned in step 1.

How to coppice a Devon hedge

Cut each stem back to within 5-10 cm (2-4 inches) of the ground. Cut at a slight angle to allow water to drain off them. If there are many shoots growing from the base of a plant, cut the outer shoots slightly lower than the centre ones, and angle the cuts so the water flows away from the centre of the stool. New shoots will grow from the cut stems or coppice stool.

It is important that the re-growth is protected from browsing by herbivores including sheep, cattle, deer and rabbits. It is likely that fencing will be necessary where the adjacent land is used as pasture and may be needed even against arable land. Covering the coppiced stools with some brash from the coppicing may help. Another option is to lay a few smaller stems to offer some protection to the stools as well as provide a level of habitat continuity.

Rachael Banyard coppicing an ash stool. ©Robert Wolton

Management of newly steeped or coppiced hedges

Please see the management cycle part of section 4, *Devon hedges and modern farming, management cycle and fencing* for guidance on how hedges should be managed following rejuvenation by steeping or coppicing, and the options available.

Tools

A billhook is the traditional tool for steeping in Devon but a small 0.5-1 kg (1½-2½ lb) axe may be more suitable for bigger hedges. Since axe heads are shorter than billhook blades, small axes can be easier for steeping close grown stools.

A bowsaw (53 cm (21 inch) or 61 cm (24 inch)) is suitable for smaller coppicing and cutting off heels but is a poor tool for the steeping cut itself because it is difficult to get the hinge to just the right thickness. Long handled loppers can be used for many of the smaller cuts and can be very effective for cutting off smaller heels.

Steeping can be carried out using an angled cut with a chainsaw but it is difficult to get the hinge thickness correct because of the speed of cutting and the difficulty of feeling the resistance of the steeper.

Loppers, pole saws and pruning saws are useful for reaching and cutting out brash which is inaccessible to billhooks or bowsaws. They are particularly helpful where ivy, brambles or honeysuckle have entangled the tops of several steepers.

A rope can be useful to help lower down very tall steepers. Attach the rope to the steeper and feed it through a fork in the next steeper to take the weight and save the hinge (an uncontrolled fall will generally break this).

Leather welder's gauntlets offer reasonably good protection against thorns including blackthorn although less so if the gloves are wet. Gloves should not be worn when holding a billhook or axe because they reduce the grip on a wooden tool handle.

Further information

1. Agate, E. & Brooks, A. 1998. *Hedging: A Practical Handbook.* BTCV.
2. BBC Devon & Tom Hynes. 2010. *Learning the Art of Hedge Laying.* Video. http://tinyurl.com/l6mkl8o
3. Exeter College & Tom Hynes. 2012. *The Art of Devon Hedge Laying.* http://tinyurl.com/m6l8hzu
4. National Hedge Laying Society. www.hedgelaying.org.uk
5. Natural England Technical Information Note TIN 039. 2008. *Devon field boundaries: restoration standards for agri-environment schemes.* www.gov.uk/natural-england

Devon billhooks are displayed in the bottom row, above are much lighter hooks used for splitting thatching spars. The main distinguishing features of Devon billhooks are a pronounced nose and a notch cut into the blade at the handle end. Blackdown Hills Hedge Association display board.