

Coppicing



It's growing once more

Coppicing is an ancient and seemingly brutal form of tree and woodland management. However, it was clearly recognised by our early ancestors as the ideal method of getting the best out of trees to meet their needs, given the constraints imposed by the crude nature of tree cutting and wood shaping tools then available. Coppicing not only maximised the yield of wood produced over the shortest period of time, but also provided rods and poles in dimensions that were entirely suited to the building and burning purposes of the day.

Small poles of oak and ash, up to 20 feet in length, would have been the largest required for the timber frames of relatively small round-house dwellings, with smaller hazel and hornbeam rods used for almost everything else, including wattle (wood reinforcement for mud plastered walls), and thatching spars for roofs. Bundles of brushwood or fagots would be used to light and sustain fires and heat primitive ovens. Not until more grandiose architecture took shape and ships were needed for overseas adventures were larger 'standards' encouraged; their use now made easier by more sophisticated metal tools for tree felling and woodworking.

Medieval England is invariably portrayed as the heyday for cop-

ping but it goes back a lot further than that. The concept and value of coppicing had already been discovered by the early Neolithic period, by recognising that the regrowth of shoots from tree stumps provided more and more appropriate timber and woodfuel than material from standard trees. Not only was it easier to handle, but it also provided a range of rod and pole sizes.

According to Oliver Rackham (*Trees and Woodland in the British Landscape, 1976*), Neolithic communities were already conserving significant areas of wildwood as managed woodland, but not using the timber concepts moulded by recent centuries' thinking. In those prehistoric times underwood reigned supreme with standard or maiden trees, as we now know them, not required or encouraged. The entire dwelling could be adequately constructed from the materials of coppiced woodland, which also provided all the materials required for laying roads, building fences and construction vehicles and agricultural equipment.

Coppicing as the key form of woodland management continued through Roman and Anglo-Saxon England but not until after the Norman Conquest do we get a real insight into its extent and value, if for no other reason than the



Coppiced willow.

advent of comprehensible documentation like the Domesday Book (1086).

Coppicing in medieval woodland

Since trees, and especially coppiced specimens, easily outlast ten generations of man, and with access to understandable historical documents, we can see virtually first-hand what a medieval English woodland looked like. Rackham

used Felshamhall Wood and Monk's Park at Bradfield in Suffolk, which he described as still being in working order, but clearly a lot different to modern coppice woodland and how people might imagine it was one thousand years ago.

Medieval woodland was mainly underwood, comprising a mixture of truly native species (hazel, hawthorn, field maple, crab apple and sallow) set on a short rotation coppice. This was complemented with a variable scatter of timber trees in a continuous range of sizes from 18 inches basal diameter downwards, with the bulk concentrated at the lower end. These trees, mostly oak and ash, were under 70 years old. Growth of the 20 foot timber poles was encouraged by the dense underwood, which suppressed development of the lower branches on these standard trees but allowed them to rise above the understory canopy to form a crown now supported by a straight and branch free bole.

In some ways coppicing has come full circle, with renewed interest now due to concern about the sustainability and environmental consequences of burning completely non-renewable fossil fuels.

Coppice and coppicing

Considering that coppicing is a seemingly simple, age-old and everyday practice, it is still defined and



(Left) Hawthorn has a tendency to 'self-coppice'. (Right) Coppiced hazel.

delineated by some pretty strict and uncompromising terminology. This is just as well because it can easily be confused with other entirely separate and different natural and 'unnatural' modes and types of tree growth and regrowth.

In strict terms coppicing requires the tree stem to be cut at ground level to encourage regrowth of shoots called 'spring' from the stump. In time, and after repeated coppicing, ideally on a frequent and uniform length cycle, a 'stool' or permanent base will develop which may be above or below ground. Spring is usually harvested on a preset time period, depending on species and material requirements, to yield smaller narrower rods and generally longer fatter poles or logs. Thus hazel, on a 7- 10-year rotation cycle, will yield rods; oak on a much longer 20+ year rotation cycle provides poles or logs. Coppicing therefore supplies a never-ending supply of wood material true in form and structure to the initial tree.

Coppiced stools are entirely self-perpetuating and therefore able to live indefinitely as long as they are not shaded out by timber trees. As they grow and spread outwards the central region disintegrates to leave an unbroken ring of stool tissue around the circumference. This proceeds for many centuries, allowing trees to easily exceed the longevity of maiden equivalents. Common ash maidens in meadows and hedgerows rarely last longer than 200 years, but 300 years is common for a coppiced ash stool. Rackham recorded ancient and still yielding stools in the Bradfield Woods measuring more than 18 feet in diameter and, at 1000 years, among the oldest living trees in the UK.

Coppicing could possibly be confused with pollarding, where trees are traditionally cut between 2 and 5 metres from ground level leaving a permanent trunk called a 'bolting'. This sprouts with regrowth, in much the same way as the coppice stool, to yield stems of varying dimensions depending on time cycle and species. The only time there is likely to be any confusion is when a standard is pollarded below the traditional 2-metre height, usually during 'bodge-job' vegetation control rather than dedicated woodland management.

That said, there is more than one situation in which dedicated coppicing can be confused with natural modes of tree growth, either inherent to the species or brought about by a natural event. Many trees have the ability to sucker by

the production of shoots from the root system rather than the stem. This may occur while the stem is living and growing or after its death, when the stump dies but the root system remains intact and continually suckers.

English elm is perhaps the most accomplished of our native tree species in the art of suckering, as a natural mode of tree growth and propagation. This is the reason why it has survived Dutch elm disease, albeit reduced from the tallest of hedgerow trees to a hedgerow shrub. The confusion of coppice with sucker growth is only likely in a relatively few species like common alder which strongly coppice and sucker. The absence of a stool where the maiden tree has died or been felled, or the maiden being still *in situ*, and in the case of grafted amenity trees the sucker shoots not being clonal (the same as those on the maiden), should tell the observer that it is not a case of coppicing but suckering.

Some species, including hazel, hawthorn and willow, 'self-coppice' to produce a multitude of stems from the base without being prompted by an initial cutting, while regrowth from the stump of a felled mature maiden tree may also be confused with true and dedicated coppice regrowth.

Which species coppice?

Most broadleaves will coppice to some extent, with hazel, hornbeam, willow, sweet chestnut and English oak among the best known coppice species. Those recognised today are those which traditionally coppiced most freely, regrew most quickly and were of most immediate use to communities over the last one thousand years of British woodland management history. There are others, such as common ash, common alder and elder, which are accomplished at coppicing but for various reasons do not feature so strongly in contemporary coppice thinking.

Common ash, mostly as a hedgerow tree, was traditionally regarded as too valuable to coppice, its timber being used to make farm implements. By virtue of its favoured and traditional wet environment, common alder coppice interest was generally confined to riverside communities and those in marshy areas like the fens. Elder coppices freely and puts on phenomenally fast early regrowth, but the hollow stems were of little use except to blow up fires or to make musical instruments or peashooters.

Using a 'star' rating, Rackham



Not to be confused with coppice – suckers 'springing up' around a rowan (mountain ash) tree.

ranked British native and exotic (*) species as follows:

- Four star: alder, common ash, wych elm, hazel, hornbeam, small-leaved lime, field maple, pedunculate and sessile oak, grey and goat willow, white and crack willow, sweet chestnut*, sycamore*.
- Three star: crab apple, European beech, silver birch, hawthorn, holly, rowan (mountain ash), whitebeam.
- One star: smooth leaved and English elm.
- No stars: blackthorn and gean (wild cherry), all native poplars, Scots pine.

Contemporary coppicing

Post WWII, significant areas of coppice descended into the wilderness as the whole concept and practice looked to be entering its twilight years. Some interest was maintained in sweet chestnut for fencing but otherwise coppicing was about to be consigned to history.

Coppicing owes its 21st century renaissance to bioenergy and biodiversity, although in some situations the former will almost certainly turn out to be incidental to the latter. Commercial interest in coppice is refired by the increasing domestic use of woodfuel, accompanied by the widespread uptake of dedicated wood-burning stoves.

Environmental interest in coppicing is based on a desire to return to traditional woodland management methods and for accompanying woodland biodiversity. The main focus is on coppiced hazel underwood with hazel dormouse very much in mind. Proponents say it is an integrated bioenergy/biodiversity project but closer inspection shows that the two requirements (biodiversity and biomass harvesting) may not be compatible. Ideal management for the hazel dormouse requires a somewhat longer 15- 20-year rotation to allow the coppice regrowth to produce hazel nuts and a canopy that provides walkways for these tiny, retiring rodents. Strict commercial interest in hazel coppice will want a much shorter rotation of around 5-10 years.

The keenest commercial interest for biomass energy is on willow, sweet chestnut and the introduction of specific types and species of eucalyptus. However, a quick look at the 'Rackham Rating' for coppicing of British natives and some long-standing domiciles show a nearer to home reassessment of species like common alder, wych elm, common ash and sycamore could be worthwhile. Hornbeam, that solid stalwart from times gone by, is considered too slow growing for modern biomass requirements.