Coppice: a broad church

Here, Toby Allen of Say It With Wood summarises the history, the current state of play and what the future may hold for this ancient form of managing trees.

THE true definition of coppicing is cutting a broadleaved tree at ground level to stimulate growth of new shoots from the rootstock. But the variations on this theme are tremendous: it is a source of materials for craft workers, and at the other end of the scale a method to grow biomass for producing heat and energy.

Humankind in this country has evolved with coppice. There is evidence that the ancient trackways used to cross marshland in the Somerset levels were made from coppiced hazel. When you've only got an axe to cut trees down, and have to move everything by hand, the smaller ones become more attractive, and so trees were coppiced on a massive scale for many uses. Hazel and willow were twisted to make crates and baskets for transporting goods. Oak and chestnut were split to make fencing. Alder, beech, birch and sycamore were turned or carved into kitchenware. The biggest use for coppice was making charcoal for working metal.

The word coppice comes from the French 'couper' meaning 'to cut', which is why the rotational areas of coppice are referred to as 'coups'. Charcoal burners followed these cycles, moving from coupe to coupe, making small camps where they cut coppice and tended kilns made from mounded earth. Evidence of past activity can still be found in woodlands; level platforms with tell-tale black soil around show where charcoal platforms were.

As a result, wildlife also evolved around this cycle of rotation; light opportunity and disturbance makes the ground flora grow, with associated insects feeding on these plants who, in turn, are eaten by birds and mammals. The numbers of these plants and animals started to decline once the regular cutting cycles became less frequent. This was brought about over time, due in part to the availability of coal for heat, the invention of plastic, and two world wars killing off the workforce. Trees more suitable for management with saws and machines were planted in place of traditional coppice coups.

There are multiple benefits to be had from growing coppice. Forgetting about the biodiversity, if you cut a large enough area (.5 ha minimum is often stated), with low cuts, sloping away from the stool (coppice stump) to shed water, the sunlight will warm the soil and stimulate the roots to send up many new shoots. As long as the stools are looked after during harvesting, and deer can be kept off, those stools will yield another crop of poles with little or no maintenance. Gaps can either be planted or filled by layering (bending a shoot then pegging it down so it sprouts roots and forms a new stool). Depending on the species and desired product this cycle can continue many times; because the rootstock is already established the new growth is fast until the stand reaches optimum density, when the growth slows down. This cycle is amazingly efficient; a continuous cycle of growth and harvest with little input – what's not to like?

The coppice craft industry needs well grown materials. Managed correctly a coppice plantation is a renewable commodity which provides a regular income with little input.

There are three main species grown in Britain: hazel, chestnut and willow.

HAZEL

If someone invented hazel now they would be hailed as a genius. It has incredible powers to be bent, formed and twisted using nothing but skill, yet contemporary uses for this wonderful material are few. This is a shame because hazel needs to be cut; in rotation hazel will yield around 25,000 rods per ha. These rods can be made into the ever-popular woven hurdle panels, split and twisted into spars for thatching. It will make lovely garden products and much more. The skill is in the grading, and a seller of good quality hazel coppice is in a very strong position, whereas out-of-rotation hazel is more common and only a liability. Most thatching materials and hurdles are imported now due to the lack of quality coppice in the UK. If hazel isn't cut every 5–8 years it becomes 'overstood', the rods being over the size which can be bent. Eventually the stools will out-compete each other, with the remaining growth becoming bent and crooked. At this stage it is 'derelict', it is expensive to harvest and only good for firewood. Restoring hazel involves several cycles, first coppicing and then layering from the stools showing the best genetic characteristics. Eventually this will make the stand dense enough to start producing good-quality rods again, a valuable crop every few years. For quite a while grants have been paid to cut hazel to create habitats for wildlife. Many coppice workers feel these grants could be based on restoration and finding new uses for hazel, and then wildlife would benefit as a by-product of economic activity.

The boundary between two compartments of coppice, the right hand one didn't have a large enough area felled previously so the growth is weak and twisted as it searched for the light. One is worth a lot more than the other, can you tell which one?

SWEET CHESTNUT

With a high tannin content and very little sapwood, the durable qualities of chestnut are famous. The main growing areas in Britain are in the south of the country; it suffers from being waterlogged and likes well-drained sites. Chestnut is not native; the Romans brought it to Britain as a source of nuts and because the charcoal made from chestnut is good for smelting, which may explain the prevalence in the Forest of Dean. Later on, chestnut was the wood of choice for growing hops; a tripod was made from poles with a plant growing up each one. The hop farms provided a ready market for poles, so the chestnut industry in the South East flourished until the advent of drawn wire changed the method of growing hops from a tripod to a wire trellis. Necessity being the mother of invention, the coppice workers adapted to use this new wire, twisting it round split pales to make chestnut paling fencing. This popular fencing became a common sight around the

country, in parks, building sites, events and even as snow fencing in Scotland and the Cotswolds. In the late 1980s, plastic and metal temporary fencing were being used instead and the market declined. Alongside this, chestnut as a fencing material fell out of favour and it is still a very undervalued product.

Chestnut will store (sit still once it reaches maximum density), and though the growth is slow, it can be cut at a later date with success. There was a fashion for 'singling' stools during the times when the market was poor; each stool is thinned to leave one or two poles which are then grown on. The principle is that the remaining stems can be treated as high forest, though in practice there is a very high likelihood of ring shake, come harvest.

Sandwich CHP recently opened its doors, with a predicted 240,000 tonnes of timber needed to fuel it. Sited in Kent, this has been hailed as an ideal market for neglected chestnut coppice. Speaking to coppice workers from the area tells a different story. In the opinions of many there is less overstood chestnut than predicted, much of it waiting to be large enough to make cleft post and rail fencing. Over the last few years the market for chestnut products has grown again. Firms now send large quantities of paling over to the Continent, and since tanalised softwood became less reliable, the market for fencing stakes has blossomed. Some coppice workers are worried that the new chip plant has the power to disrupt this fragile resurgence for one simple reason: the prices offered for roadside chip are too low to make hand cutting economic. This means any firms supplying the timber to Sandwich need to cut mechanically; harvesters like straight timber as do producers of fencing. The second worry is that the fencing market will be flooded by agents looking to sell primary products cut while harvesting chip. Instead of creating a market for low-grade material from neglected woodlands, the double whammy of rising competition for good-quality timber, mixed with lower prices paid for product, could force smaller, hand-cutting firms out of business. More observant people will have noticed the CHP plant is located near a port with good access for importing timber, so their fears may be irrelevant.

WILLOW

The two main uses for willow can be split according to its main characteristic strengths; it is bendy and it grows fast. It's hard to put a figure on how much willow is grown for weaving, but there is a thriving industry supplying basket-makers. Willow works easily and can come in different colours, with the bark left on or steamed off. Willow is nutrient-hungry which can help in the control of excess nitrogen. It's easy to grow and is useful in wetland systems to filter water. As long as it's cut regularly, it will keep growing new rods, which have a reasonable market value – basketry rods can be ready for cutting again every year!

This speedy growth makes it an ideal energy crop. Using wood is a sustainable way to produce heat and power, and coppice fits in well with energy production. The potential yield for these SRC sites can be 12 tonnes of dry material per ha per year.

Most species of broadleaved trees will coppice to some degree, and there is the potential to glean a multitude of products for currently untapped markets. Britain is the BBQ capital of Europe; an estimated 60,000 tonnes of charcoal are used to cook with every year. The FC website estimates that only 5,000 tonnes are made in this country. At a conversion rate of around 6 tonnes of green timber per tonne of charcoal, it's a missed opportunity for low-grade material. Yet despite this I've struggled to find a wholesale buyer of charcoal (and I've been looking) – if you know of one do get in touch.

Toby's dog Pearl was a core member of the team and he readily admits it's a bit lonely in the woods without her...

But the main possibility for the future of coppice systems, outside of hazel and chestnut, is producing fuel wood. If coppice cycles are managed correctly, every 15–20 years or so, depending on site and species, a crop of processor-sized poles is ready for harvest. There are now harvesting heads made for cutting energy wood which are ideal for mechanising coppice harvesting, and the use of brash to drive on will protect the stools. A hand cutter is usually needed to cut the stumps low afterwards, which encourages the dormant buds to sprout from near the roots. Coppicing is limited to growing stems of a certain size, though it does this with remarkable cost-effectiveness.

New species have the possibility to be grown in this country; *Robinia* for fencing, and Eucalyptus for fuel wood. Both are fast growing and could be resilient against climate change and disease. It's a shame ash coppice is especially susceptible to *Chalara* because it makes a great firewood crop. Chestnut has threats from the gall wasp, blight and ink disease. Deer love to browse on the new coppice shoots, before squirrels strip the bark a few years later. But the main threat to coppice is neglect through underestimating its potential.

FOR MORE INFO:

National coppice federation: www.ncfed.org.uk
Kent coppice workers co-op: esusforestry@btinternet.com

You can also catch Toby and his partner Aly dong their bit to promote woodlands on *Back to the Land* on the BBC iPlayer at https://www.bbc.co.uk/iplayer/episode/b0b4jq6h/back-to-the-land-with-kate-humble-series-2-episode-11. They appear at the beginning and again at around 30 mins in.