Woodland Heritage 2010

84 pages of topical articles about silviculture, research and education

'Anyone Can Plant a Tree...'

We've heard of some major new tree planting projects which are on the starting blocks, and murmurings of a massive national tree planting initiative, as measures to mitigate climate change. As a 'tree man' I would love to jump up and down and cheer loudly!

Sadly, I cannot bring myself to do so, because I fear that yet again the emphasis will be, very simplistically, on just the number of trees planted! Once again, we will not be investing in the vital management and aftercare of the saplings to ensure that they grow into high quality timber trees with tall clean stems. Alas, I fear we will be growing only *"gooseberry bushes"* and firewood, for future generations to inherit.

Nature needs nurture:

Are we going to choose the right trees, plant them in the right places and for the right reasons? *(see page 18)* Are we going to invest in the best seed origin? *(see page 61)* In formative and high pruning? Plant at the right spacing, thin when appropriate, protect from predation by rabbits, deer and grey squirrels? Are we as a nation going to investigate and find a solution to the disease/s threatening our iconic Oak trees? *(see page 20)*.

We know how to grow trees properly, but why do we so seldom do so? Why do we continue to import most of our Oak from France, when we are perfectly capable of growing high quality Oak in this country? Why are timber and timber products still one of the largest items on our import bill? I ask this because we can achieve at least three times the growth rate of Sweden for conifers and could therefore meet far more of our softwood requirements.

This country has long suffered from 'short termism'. It is a huge problem in relation to woodland management and forestry where we need continuity of management. Yes, it takes at least 120 years to grow an Oak tree. You can't think about quick returns and you need the right tax and fiscal regime to reward long-term investment and stewardship.

When browsing the web, I came across an old Greek proverb:

"A society grows great when old men plant trees, whose shade they know they shall never sit in."

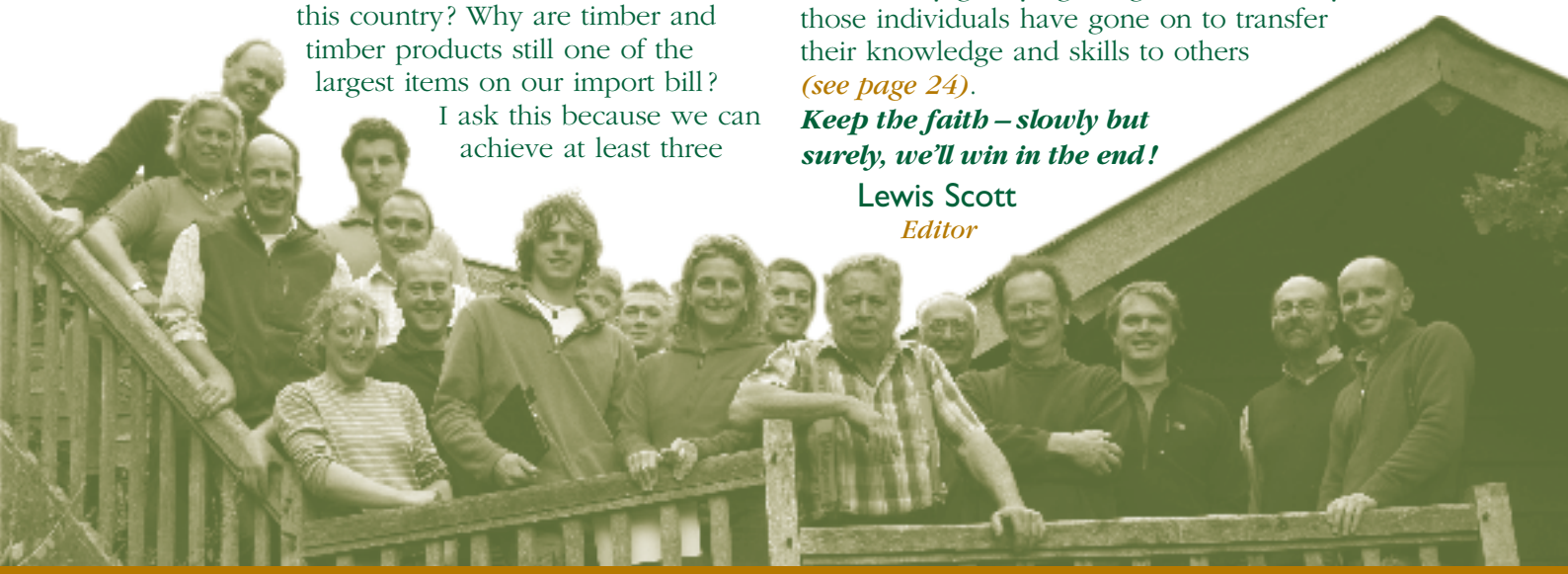
If you find this opening article downbeat and even slightly depressing, then please don't. I've just re-read our Woodland Heritage Journals for the last fifteen years. My objective was to look for the names of individuals whom we have helped educationally, to undertake research, to travel the world to study best practice, or to develop practical woodland and woodcraft skills. I intend to invite them to write something about *'How Woodland Heritage Has Helped...'* on our new website ***www.woodlandheritage.org.uk***

My point? After some hours, I was amazed to have written down five pages of names. I found letters from so many young people (and some not so young) saying, *"You've changed my life"*.

The really gratifying thing is that so many of those individuals have gone on to transfer their knowledge and skills to others *(see page 24)*.

Keep the faith – slowly but surely, we'll win in the end!

Lewis Scott
Editor



Our 2010 Field Weekend

CORNWALL

Friday 14th, Saturday 15th & Sunday 16th May

Our Field Weekend this year has been brought forward by a month to take advantage of some of Cornwall's magnificent gardens, which are in their prime in May. The plan is to hold structured meetings on the first two days and to allow our members time to enjoy other places of immense interest, for which Cornwall is famous.

Friday 14th

The Boconnoc Estate

By kind permission of Mr & Mrs Anthony Fortescue.

Trees are one of the glories of Boconnoc. From the ancient native trees in the Deer Park to the ornamental trees in the gardens, they dominate a landscape of immense beauty. Boconnoc is arguably the finest private estate of its size in the county – and what's more, its owners have miraculously restored the previously demolished house to its former glory.

Saturday 15th

The Duchy of Cornwall's Woodlands & Nursery and Lanhydrock

We will visit the historic Restormel castle overlooking one of the Duchy Woodlands and make our way through them to their much acclaimed nursery. In the afternoon we will take the short journey to Lanhydrock country house and estate run by the National Trust where we will be given a private tour of the historic park.

Sunday 16th (Morning only)

The Trewithen Estate Gardens

By kind permission of Mr & Mrs Michael Galsworthy.

An historic private estate boasting one of the loveliest gardens in England. Famed for an amazing tree and plant collection and boasting no less than twenty Champion trees.

Members as well as their guests will be very welcome

To book, please contact Woodland Heritage on 01428 652159
or enquiries@woodlandheritage.org.uk

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Printed by Alphaprint (Colchester) Ltd on Managed Forest Paper

The Peter Savill Award

For a significant contribution to the British Forest Industry

The Prize

Each year Woodland Heritage awards a prize to recognise the contribution of an individual who has significantly benefited British forestry.

Criteria

The contribution to forestry made by the selected individual must be in sympathy with the objectives of Woodland Heritage, and in one of the following areas of forestry: silviculture; research; marketing; wood processing; education.

Normally the prize will focus on a contribution to one of the above areas with an emphasis on Britain, broadleaves and lowland forestry, although not exclusively so.

Peter Savill presents his trophy to the 2009 Winner, John McHardy, at Catton Hall on our Field Day

The Peter Savill Award 2010 Winners

Will Bullough and Gavin Munro

What do you do when you only have one award but the names of two men who are equally deserving of it? Well, when presented with this dilemma, the Trustees of Woodland Heritage agreed that the Peter Savill Award for 2010 should be jointly given to a couple of truly remarkable individuals who, besides everything else that they have achieved in their respective careers, have more recently been instrumental in establishing and running Woodland Heritage's 'Woodland to Workshop' course.

This course, which will be run for the fifth time in May, has been described by some of our own Trustees as Woodland Heritage's single biggest achievement to date but we would not have made it to Course One, let alone Course Five, without the incredible knowledge and insatiable enthusiasm of Will Bullough and Gavin Munro.

Will Bullough, owner of Whitney Sawmill and Workshop, is someone I have had the pleasure of knowing for some ten years now, through my forestry work in Herefordshire, but I don't regard him as simply a 'work-contact' but rather as a friend. Indeed,

I have described Will, before now, as the friend I would phone if I was ever on that 'Who Wants to be a Millionaire' programme for he is a man who seems to know something about everything!

When it comes to hardwood sawmilling Will's superb knowledge has come not from text books but from hands-on experience for he is a cabinet-maker who began milling his own wood to secure his own

supply but then the sawmill grew and became what it is today: not, by any means, a massive enterprise (and Will would be the first to acknowledge that) but a vital, and now almost unique, aspect of the hardwood industry in that part of the country.

Whitney Sawmill is, however, more than a business for it is increasingly becoming a centre of learning.

Gavin's "belt and braces" approach.

It is one thing to have a thorough knowledge of your particular area of work but quite another to want to share it for the good of the wider industry. Will, as long as I have known him, has had a passion for helping others to learn (and avoid the mistakes that he inevitably made when setting up his business).

Will sees the need for younger people to enter the timber industry and has both the knowledge and facilities to help this happen. In offering what he has to Woodland Heritage, over fifty students have now benefited and, hopefully, there will be many more that do so in years to come.

I have known ***Gavin Munro*** for a shorter period of time; indeed, it's only through the *'Woodland to Workshop'* course that I have really come to know him. When we all began meeting, a couple of years ago, to plan the Course it quickly became apparent to me that we had a 'character' in our midst, one of those individuals whose 'hands-on, no-nonsense, say-it-as-it-is' approach, but always presented in the most jovial manner, means once met, never forgotten.

One of the participants on one of the *'W2W'* courses described Gavin as 'a national treasure' and that really sums up the way our students have reacted to this man. His knowledge, gained from years and years of timber buying, combine with the warmth of his personality to create a tutor who makes a truly lasting impression. ***Like Will, Gavin has a passion for helping young people pursue their careers in forestry or the timber trade and I know that his involvement with education and training (and generally encouraging people) stretches well beyond the Woodland Heritage courses.***

There is so much more that could be said about both Gavin and Will but I hope the above gives some indication of the high regard I, as a trustee of *Woodland Heritage* and fellow-tutor on the *W2W* course, have for these two individuals.

It does make absolute sense for the 2010 Peter Savill Award to be jointly awarded to two men who have made and are making a enormous contribution to ensuring that the necessary knowledge and skills are being handed on to the next generation and for that we all owe both of them a huge debt of gratitude.

Geraint Richards

Growing Broadleaved Trees for Quality Timber

by Keith Rawling

The growing of trees is one thing; growing quality timber is something else. Today many woodlands are established for conservation, recreation and landscape effect. While these aspects are important, they are often the priority before production. However, all these facets can be combined together resulting in quality timber, which can be an integral part of the woodland.

Of course there are different types of woodland on differing qualities of soil, yet where the sites are fertile and have a Ph level between 5.4 and 7.2, then planting for quality timber should be undertaken. To do nothing or just apply a management system for the benefit of wildlife and public amenities is to ignore the potential to grow timber of the highest grade for which there will always be a demand. It should also be borne in mind that it can cost the same, or even more, to harvest poor quality than it does for high grade timber.

There are costs involved in producing high grade logs. However, never once in the 53 years of my forestry do I recall an owner, or agent say: "Don't forget when you are selling this timber that in 1924, or whenever, it cost x amount to prune and thin them." It was the value on the day of sale. ***Unpruned or badly formed trees can have the same volume of timber as well managed ones but they are in a different value class.***

What then are the guidelines to the achievement of quality timber?

1. Ensure quality planting stock from registered seed stands. The registration numbers will tell you where the seed is from, which country and seed zone and which wood. All this is contained in the Master Certificate of Identity for reproductive material derived from seed sources and stands.
2. Plant the transplant so that the roots are spread down and the stem to the same depth as in the nursery. There is a big difference between planting them and sticking them in the ground. If the root system is not set out properly then it will reduce the tree's ability to grow into a good form.
3. Poorly formed saplings of Oak, Sweet Chestnut, Sycamore, Ash and Lime can be 'stumped' back in about years four to five. Stump back to about 4cm above ground level and keep the stump free from weed growth. Put the stem, which has been cut off, into the ground adjacent to the stump for identifying its position. The resulting shoots can be reduced to one in the second year after regrowth. These will then continue to extend into a good form from the established root system.
4. ***Formative pruning should begin about year six and only 50% of the stem cleaned, plus the reduction of any forked leaders to one shoot.*** Other large extending branches in the crown area can be reduced in length by half. The remaining section will tend to produce more leaves and somewhat larger ones. Also the diameter of the branch will not increase very much, so when additional pruning requires these branches to be

removed there is virtually only the initial diameter scar. More trees should be pruned to start with than will be required for the final crop. This gives insurance against storm damage, disease etc. High pruning should then be on selected quality stems.

5. Nurse trees can be planted in the mixture to encourage height growth of the broadleaves but they are not essential. The better species being Western Red Cedar, Western Hemlock, Norway Spruce or Larch. ***Of more importance is the establishment of an understorey, Hazel, Birch or any natural regeneration. This will help the prevention of side shoots and epicormic growth from developing on the main stems.*** The understorey will also reduce the wind speed through the plantation and allow the CO_2 to filter up from the soil layer into the tree crowns. This is an essential source of nutrition for both stem and crown development. Without an understorey much of the CO_2 is blown out and lost from the woodland.
By reducing the wind speed the crowns of the main species will not move excessively and this will help to promote the growth of a cylinder shaped stem rather than a tapered one where there is a higher degree of waste. Windy days in summer produce more growth due to extra transpiration from the crown. This causes the trees to take up more water and nutrition.

6. Crown size is all important and the 50% of the total tree height should be retained. Alongside the size of it is the availability of sunlight to the whole of the crown area. Assimilation reduces as it comes down the crown if it is shaded by neighbouring trees. Light demanders such as Oak, Ash, Sycamore and Lime need full crown access to the sun. Beech, being a shade bearer, can be grown closer together and still produce the required volume of timber. An even crown formation will reduce abnormal ring width in the stem and not cause excessive stress in any one area.

7. Stem length can be from five to ten metres, ***but what must be avoided is height at the expense of girth. Diameter is the grand essential along with even growth.*** This is related to thinning cycles and the intensity required for crown development. The resulting timber will have evenly distributed stress and tension, which upon conversion will cut evenly without twist or warping.
Although seasonal weather conditions can affect ring width, it is usually the lack of thinning and crown size which can cause major differences of unevenness across the years in the distribution of the annual rings.

8. Log size, and the timescale to achieve this, are the result of stem pruning plus crown development by ensuring that the thinning operations are carried out at the right time and to the right degree. ***The stems are to be pruned to the height required in the earliest time possible, especially with Oak which must be before the heartwood develops and appears in the branches, or there will be the risk of stem rot through the pruning wounds by the disease*** *Stereum rugosum*.
Twenty to twenty-five years should be sufficient for ensuring that only the smallest area within the stem will have knots in. However, this time scale is approximate and not specific. It is, therefore, important to keep records of what operations have been carried out and when, so that at the time of sale, it can be proven that early pruning was done. This will give assurance of the quality to the buyer.

9. Time of felling – the dormant season is best, late October to mid February. If you have no option but to fell quality Sycamore in mid summer then leave the crowns on for two weeks before dressing out. This will help to draw out the sap and retain the white colour.

10. Some indication of the years of growth required to reach quality saw log size with minimum mid diameter of 45cm

Sycamore	60-70 yrs	These figures are not specific and can be different according to site fertility and quality of management
Beech	80-100 yrs	
Ash	50-70 yrs	
Sweet Chestnut	60-90 yrs	
Oak	80-120 yrs	

11. These are outline principles essential to the growing of quality timber. The species and size will to a degree dictate the market, with sports Ash on one side and furniture quality and veneer logs on the other. ***The time of selling should be in response to demand and price.*** Don't be too dogmatic about achieving the year of rotation. ***If the price is right go for it.***

12. Within a mixed woodland trees mature at different times and differing stem sizes are required by the market, which will result in an uneven aged wood. This includes the removal of any nurse species. Continuous management will ensure the perpetuity of benefits to future generations of wildlife, people, landscape and industry.

K L Rawling
Retired Forestry Consultant

From Woodland to Workshop

The Inside Story

They are the world's largest plants, reach the greatest size of all living things, and arguably live longest. And they are made of wood. You've guessed it, we are talking about trees. And in beautiful May-time Herefordshire, the venue for Woodland Heritage's third 'from Woodland to Workshop' course, the talk for the three days' duration of the course was just that. Course number three came with glowing recommendations from the students of the previous courses, as well as the best wishes of Woodland Heritage's Patron, woodland owner and WH enthusiast, Prince Charles.

The twelve students came from varied backgrounds across the spectrum. Some were woodland managers or owners, some timber merchants, some craftsmen, furniture makers, and some at various stages between. All were keen to add to their knowledge of trees and timber, and to use this new knowledge in developing their careers, some in entirely new directions.

So we duly convened at Whitney Sawmill, on the banks of the Wye, on a warm summer morning. Peter Goodwin introduced the course with some of the history of *WH* from first beginnings in the frustration of cabinetmakers at their inability to do anything to protect the tropical rainforest, source of much of their fine timber. This concern could, however, nurture new attitudes in the UK, so in 1994 the Charity Woodland Heritage came into being, aiming to lead woodland managers and timber users by example, to help young people into the industry, and, as Whitney Sawmill's proprietor ***Will Bullough*** put it, to take a tree from the wood and turn it into something beautiful and valuable.

from woodland to workshop

Which brings us, naturally enough, to course Tutor, ***Gavin Munro***. Gavin's huge store of accumulated knowledge and his direct style of delivery uniquely qualified him to lead us through the inside story of the life of an Oak, this history reflected in the growth and the grain, the knots and the burrs and, importantly, the treatment from its puny human stewards over the long life of the tree.

Will Bullough introduced us to the arcane world of Hoppus's measure, of which more anon. And we learned of spiral grain, dead knots, epicormic branches, and ring shake, star shake within the sometimes-achey shaky off-centre heart of Oak. ***At once the innate value of the course shone through. The tutors would all be working practitioners who can teach. They knew their stuff and furthermore know how to put it over.***

Having talked about defects, we went to see some and met, for the first time, some of the logs whose inside story would shortly be revealed to us.

But first, into the adjoining and magical Whitney Woods. How should we look at a tree before it is felled? What should we be looking out for? Between Will, Gavin and Peter is a shared experience of not just thousands but tens of thousands or even more of such judgements but the practical results of good, or not so good decisions. Shakes, spiral grain, white and red rot, nails and woodpeckers are all pitfalls for the unwary.

Back at the mill, we met craftsman ***Ben Asson***, who gave us a run down, with help from the teaching team, on the advantages of various timbers for different workshop applications. We learned to buy Sycamore after the German importers have winged back home in the spring, and how to take the buttresses off Oak butts before inviting offers for logs. We heard about light pip and heavy pip, of the virtues of Chestnut, Cherry, Elm and Lime; of Douglas Fir and of Western Red Cedar. Good old English Oak, and indeed home-grown Walnut show more character than their imported, blander, competitors, but in return are generally harder to work with and more prone to degrade. Some kind of metaphor here, I think? Ben then went off to make a framing joint of such devilish ingenuity that I can't do it justice by attempting, in mere words, to describe it.

Day Two was very different, spent outdoors in the outrageously blessed Aconbury Woods, owned by the Duchy of Cornwall and managed by Head Forester ***Geraint Williams*** and ***Graham Taylor*** of Pryor and Rickett Silviculture. Our hosts took us through the shape of modern woodland management in the UK, and underlined the fact that forestry in the UK has lost any inherent woodland tradition, in contrast to the respect and knowledge found in Continental Europe. ***This makes it difficult to put across to the largely urban population, the dynamic process of growing, felling and then replanting that lies at the heart of proper forestry practice.***

We moved on to a serendipidous glade carpeted with tiny Oak seedlings amongst the bluebells and stitchworts and the promise of foxgloves, where we learned of continuous cover systems, and the implications of climate change, thence to a less happy site where Grey Squirrels had done their rotten worst in a crop of Sweet Chestnut with a conifer nurse. Result almost total loss, were it not for the possibility of coppicing the Chestnut, already showing signs of fresh promise in vigorous new shoots.

Again, in Geraint and Graham, with added contributions from Peter and from Gavin, the students had the powerful combination of highly knowledgeable hosts in an ideal location where the practical implications of the application of that knowledge were there for all to see. To which they soon began to add and exchange their own experiences. Gratifyingly their questions, and the answers to them, both here and back at Whitney, showed just how well this course has been designed and executed.

After an *al fresco* picnic amongst the Oaks *(see page 10)*, we moved on into older woods where we met some 'Plus Trees' of Ash and Oak which formed part of the BIHIP, a cause so well favoured by WH that I won't bother to decode the acronym. Thence into very fine 150 year-old Oaks. Delicious!

Homeward bound, we called in at the award-winning offices of Architype at Upper Twyford which featured, among a great many environmentally sound design principles, the use of locally grown Chestnut for interior flooring and joinery, and of Douglas Fir, from the Duchy woods in Cornwall, as exterior cladding.

Dinner at the Swan at Hay-on-Wye was preceded by a truly fascinating presentation from WH Trustee ***Roger Venables***, who described his former family firm's involvement with the reconstruction of York Minster, and of the construction of The Lantern Lobby, part of the new-build following the devastating fire of 1992 at Windsor Castle. Apart from the breathtaking standards of craftsmanship, design and construction of both projects, Roger had to contend with the pressures of architects and main contractors, notably more severe at Windsor than in

Geraint Richards in Aconbury Wood.

the ecclesiastical atmosphere of the Minster. Food for philosophical thought here perhaps? Food for weary bodies as well, and the meal was a very pleasant cheerful event, with all the students being joined by WH Trustees ***Susan Bell*** and ***Lewis Scott***.

Day Three and we're back in the mill and at once everybody is back in action, measuring then calculating volumes in Hoppus feet and cubic feet, assessing logs carefully drawn up for us in the yard. Then our newfound knowledge of grading was put to the test in a valuation exercise. The logs were then planked before our very eyes, and the effect of shake, burr; off-centre hearts, knots and ill-timed pruning all became apparent. ***This was such an obvious exercise, and so effective in bringing home the realities of buying round timber that I marvel that it is not included in every forestry-training course on day one.*** While a mobile band saw revealed the true inside story, we looked at sawing techniques, from beams to half-beams, quarter sawing, planking methods, sawing billets, the implications of the season and of small and large dimensions and how the history of the tree and its pattern of growth can decide how it can best be used.

The burr log turned out much better than expected, but when it came to valuation, nobody expected a bidding war to break out. The pippy boards were finally knocked down to the 'Cat in the Hat' from Ipswich.

Lunch in the sun was followed by a final afternoon in the drying shed, where we started by putting the recently sawn logs in stick, then considering the whole complex area of air and kiln drying of timber. Robins pecked and piped eagerly among the boules of magnificent timber in Will's shed as the air sighed between the stacks of planks, ***and as a finale we heard a modest account of how Will Bullough had developed his business with a mixture of profound knowledge of his subject and good common sense coupled with commercial shrewdness, a process, he claimed, that any of the students could emulate for themselves.***

Talking to the students afterwards, I was struck by how much of the mass of information they had absorbed. ***The combination of the right tutors, with the right message, delivered in the ideal location is a heady mixture.*** In Prince Charles's own words, both Aconbury and Whitney Sawmill and Workshop are *"truly superb sites for teaching the contents of the course."*

Congratulations are in order to Will, Gavin, Peter and Ben, to the lads on the mobile saw and the forklift, to Geraint and Graham, to Roger Venables, and Belinda whose organisational skills were once again peerless. Here's to course number four in September 2009 – wish I could be there!

David Taylor

David Taylor, front row second left, joins our students and their tutors in Aconbury Wood.

Note from the Editor

Will Bullough's Sawmill and Joinery Workshops, at Whitney-on-Wye, are the product of one man's conscientious efforts to establish a friendly and reliable business, specialising in home-grown hardwoods. The range of material that is available, when combined with the expert advice that is willingly given, plus the 'no job too small' attitude displayed by Will and his team, means that Whitney Sawmill attracts a wide range of customers from architects to builders to craftsmen of all sorts.

Whitney Sawmill is also becoming a centre of learning, as anyone reading this Journal will know. It is hardly surprising, when you realise what Will stands for and what he has put into the business, that, with the prospect of retirement approaching, he is starting to look around for a like-minded and motivated individual or company to help take the business forward.

If you are interested in discussing this with Will, then please write to him at:

Mr Will A Bullough
Whitney Sawmill & Joinery Workshops, Old Station Yard, WHITNEY-ON-WYE, Hereford HR3 6EZ

"The ultimate course for those who want to meet and learn from the real experts!"

from woodland to workshop

Woodland Heritage is proud to announce this unique three-day training course

Linking 'tree growers with wood users', to broaden horizons and raise awareness by educating participants from the forest through to the workshop and beyond….

Our next groundbreaking courses will take place from

Tuesday 4th to Thursday 6th May 2010

and

Monday 13th to Wednesday 15th September 2010

at Whitney Sawmill & Joinery Workshop
Whitney-on-Wye, Herefordshire

Based in the woodland, sawmill, timber yard and joinery workshop.

Numbers will be restricted to enable a 'hands on' and highly interactive approach, ensuring a learning opportunity of enduring quality.

Subsidised places are available for deserving and committed individuals

For further information please contact Woodland Heritage
Tel: 01428 652159 enquiries@woodlandheritage.org.uk

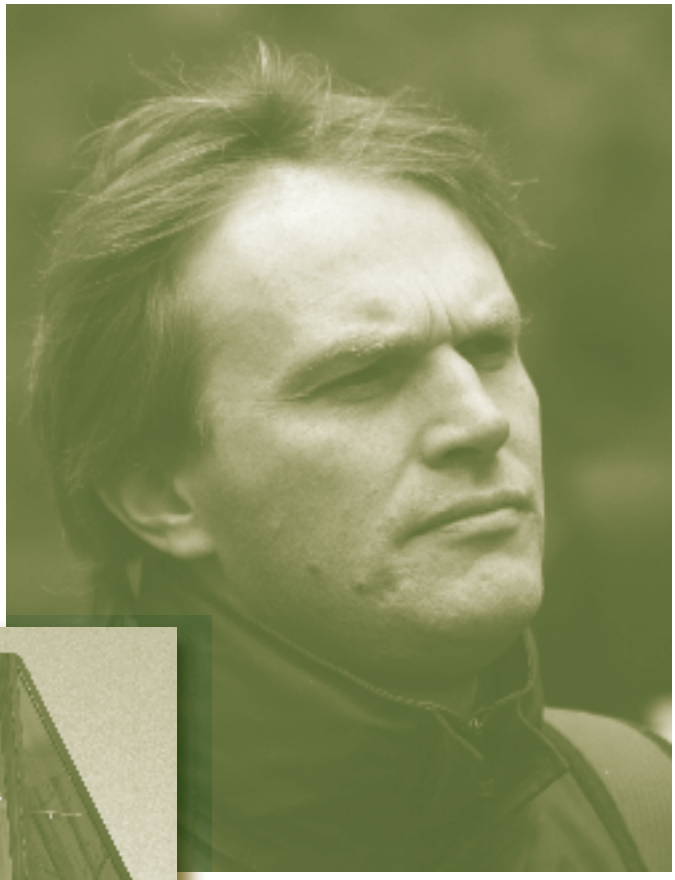
How our Workshop Courses

Art of Wood

Dan Tomlinson

My previous career was eleven years as a professional actor. The question I frequently asked myself when working on a character was, "what is the story I'm trying to tell?" This simple question would always succeed in rooting my work, making it less indulgent, and enabling the audience to better relate to what I was doing.

I stopped being an actor in 2005. Joanna and I were expecting our first child and I didn't want to spend time working away from home. I decided to re-train as a cabinet maker and graduated with distinction. I obtained an advanced City & Guilds certificate in cabinet making in 2008. I was also awarded first prize for cabinet making by The Worshipful Company of Upholders. I invested in a few decent power tools and was working out of our garage, making cupboard doors and shelving.



By this time we were expecting our second child and my wife and I were yearning to leave central London for some fresh country air to raise our family in. After many months of looking all over the country for somewhere to live that also offered workshop space, we found a barn conversion just outside Brecon, in mid Wales. The place was unfinished and still needed a lot of work, but it also came with a fully kitted out cabinet maker's workshop of about 700 square feet. This was truly a once-in-a-lifetime opportunity and it's where I work from now.

I attended the *Woodland to Workshop* course last September. It was an inspiring three days in the company of highly experienced, dedicated tutors, as well as a focused group of fellow students. I became aware of the value added to a tree at each stage of its life; from the initial planting right through to the end use as a beautiful piece of furniture. I understood that my work is the penultimate link in a chain that reaches back to the initial forester, with my customer being the final link. Being conscious of this means that I can ask the same question I did as an actor, "what is the story I'm trying to tell?" The story is how the customer's needs continue the journey of the tree.

I feel that this is the only way I can compete with mass-produced furniture that costs a tenth of the price I need to charge. I am inviting a potential customer to be part of a story that was started over a hundred years before, and will continue for many years to come. This seems to me a profoundly respectful use of the planet's precious resources, and one that, I hope, keeps my work focussed on the true star of the show: the tree.

If you would like to commission a piece of furniture please call 01874 712 375. Please have a look at my web site for more photos of my work: www.theartofwood.net

Northern Ireland

Well hello Mr Goodwin,

I hope you haven't slowed down any. If so, I'm sure it has to do with the economic climate – not the lack of your abundant enthusiasm and energy.

It's Thomas Baker here, the young lad from Northern Ireland, who came up from Ben Law's for the *Woodland To Workshop* course in May 2009.

It was heart warming to hear that Barney went up and met you great folk and got the mind blowing insight which has been so useful for us both. He is a courageous young man who has jumped in head first and I have ultimate respect for him!

It's been a funny time for me, coming home with a new pair of eyes – going out visiting woodlands like an excited young child, and it's the same genuine excitement I've seen in yourself when we milled up the pippy Oak and your creative imagination was flying, thinking "what could I make this fine specimen into, what bargain price…?".

Now I know why it's the best career/way of life in the world – it keeps the mind young, inspired and active!

I have learnt from travelling around and meeting great folk like yourself, that I need to learn how to manage the woods first and foremost, but that on its own isn't enough to sustain it. I need to learn the skills or gain sufficient practical understanding – from felling the tree, to extraction, transportation, milling, drying, storing and the vast finished products. Also do it the Woodland Heritage way, and link all the individuals up, because one man can't do it all.

I see myself as a woodsman first, a craftsperson second, and a businessman third – but give equal importance to them all.

I have gained the integral understanding that estate owners have high overheads to cover and it all comes down to the money. And in this country, they make more money on land per acre, letting it out for agricultural use, than they do from their woods. And until I learn the skills and work with others to change that – this country will not have the vast resource it will need in the future.

Trees, woodlands, what a wonderful and basic necessity.

Send my kind regards to all!

Thanks again,
Thomas Baker

Dear Thomas,

What a lovely letter ! Thank you so much for putting your thoughts, experiences and hopes on paper and if I have played a small part in stoking up your enthusiasm then that gives me much pleasure.

I would very much like to publish your letter in the next ***Woodland Heritage Journal***, but before doing so, I write to seek your approval. I have to say that your words on paper come over as if you were actually speaking them – and that is a rare gift. Maybe when times get tough in the woods then you should think of journalism…Thanks again for writing and do let me know if you are happy for us to publish.

Kindest regards,
Peter Goodwin

Bucks

Dear Belinda

Just to give you an update… Met up with Ben Law yesterday, and has agreed to have me on board for a project, three months initially. College starts in September, Arb and Forestry, and I'm attending your Woodland Heritage three day course next week in Herefordshire.

I have been working for an Arboricultural consultant two days a week tree tagging and hazard assessments at various London public sites. Have also been working with a tree surgeon two days a week. The tree surgeon has been climbing for 20 years and has a lot of wise words, and I have been getting paid to do it. It seems I can't do anything wrong!!

I just wanted to say a massive thank you for all you have done for me up to now, you have been really helpful and supportive.

Thank you
Tristan Bund

How Woodland Heritage helped – and beyond

My involvement with Woodland Heritage stems from 2005 at the end of my first year studying Forestry and Woodland Management at The National School of Forestry, Newton Rigg, Cumbria.

I had just been introduced to the concept of continuous cover forestry (CCF) and was keen to learn more. The beginning of that autumn saw an amazing opportunity to go to western Switzerland with the Continuous Cover Forestry Group to learn more about selection systems – a term which meant little to me then. Even better, the study tour was funded by a Woodland Heritage Garthwaite Travel Bursary. As a mature student who had given up full time employment to go to university, money was in short supply to say the least.


Sharon Rodhouse.

The funding was conditional on me writing a report for the journal. The advantage of this was that in taking copious notes and then sitting down and attempting to make said notes readable I developed my understanding even more. ***This CCF event proved to be the first of many over the past few years, including an intensive seven day event to northern Germany organised by Bangor University where I felt incredibly privileged to once again be a recipient of a Woodland Heritage Garthwaite Travel Bursary.***

On leaving the National School of Forestry clutching my hard-won degree, I took on my first job as a forest design planner in Coed y Gororau Forest District with Forestry Commission Wales – with responsibility for reviewing existing design plans.

A forest design plan is the Forestry Commission's core document which details the next 10 years of the life of each forest. It is reviewed after five years to determine whether it is achieving its objectives, particularly in light of often changing Government policy. To comply with UKWAS there are set requirements and to simplify the process, the FC has produced operational guidance which each district follows in one form or another. ***The plan considers the lifespan of the forest, in particular the felling and restocking proposals. It was initially focused on the design of the forest within the wider landscape, but has gradually incorporated other aspects that we demand of our forests today – such as recreation, conservation and climate change mitigation.***

Bringing together this plan to embrace the forest as a multipurpose resource is often something of a balancing act. It requires the engagement of colleagues who are actively involved in its day-to-day running and consulting with external stakeholders – from neighbours, through to local ramblers groups and organisations such as Natural England and the Environment Agency.

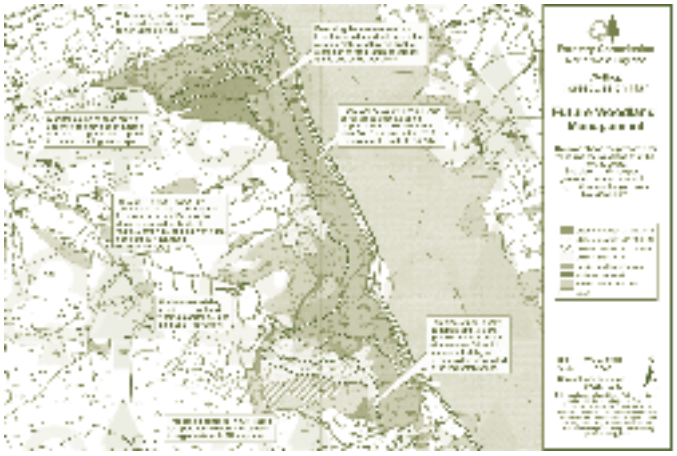
Several months and several reviews later, I transferred to North West England Forest District working in the North Lakes. I continued to work on FDP reviews and being closer to home, it meant that I could commute on a daily rather than weekly basis.

So what do I actually do?

I start by reviewing the existing design plan to get a feel for the woodland and its history, involving those colleagues who are directly involved with the site to gain their knowledge and expertise. I then go out on site armed with maps and digital camera hoping for a clear day for both decent photographs and to avoid getting soaking wet through while surveying.

The review is an ideal opportunity to make amendments and updates to the sub-compartment database, the inventory on which calculations and projections are based. I work through the forest noting the work that has, or has not, been carried out since the plan was last reviewed. Any issues that require to be flagged up, such as harsh geometric boundaries on the landscape, or invasive Western Hemlock regrowth competing with native broadleaved regeneration on a Plantation on Ancient Woodland Site (PAWS) restoration. By taking photographs of achievements, issues, and interesting features specific to that woodland, I aim to depict the site. I also take landscape photographs (panoramics where necessary) to determine how the woodland sits within the landscape and to display this to the reader. ***These all contribute to an invaluable archive that records the progress of the woodland over time. Landscape shots are particularly important for those woodlands highly visible on the landscape, which there are numerous throughout the heavily visited Lake District National Park.***

This initial survey work is my chance to get out in the woods and the surrounding fells in this beautiful part of the world, although it is not always the nicest place to be, especially in our wet and cold winters. I have also found out to my cost that the summer can be worse – fighting through head high bracken to see if the native broadleaved planting is still there (as it says on the database) and then picking the ticks off myself later that day! At least in the winter the site is



relatively open and easy to get round (oh, and snow sometimes stops play altogether).

Then comes the desk exercise. Working with GIS (geographical information systems) I produce core survey maps *(see above)* and annotated maps of achievements and review issues, design concepts, future management and species, including recreational, community and conservation considerations. For highly visible woodlands I produce 3D computer generated perspectives *(see below)*. Not only are they a brilliant forest design aid by, for example, being able to visualise whether certain clearfell coupe shapes and boundaries will be acceptable or not on the landscape and then being able to alter them accordingly. The projections can then be presented to the reader for comment.

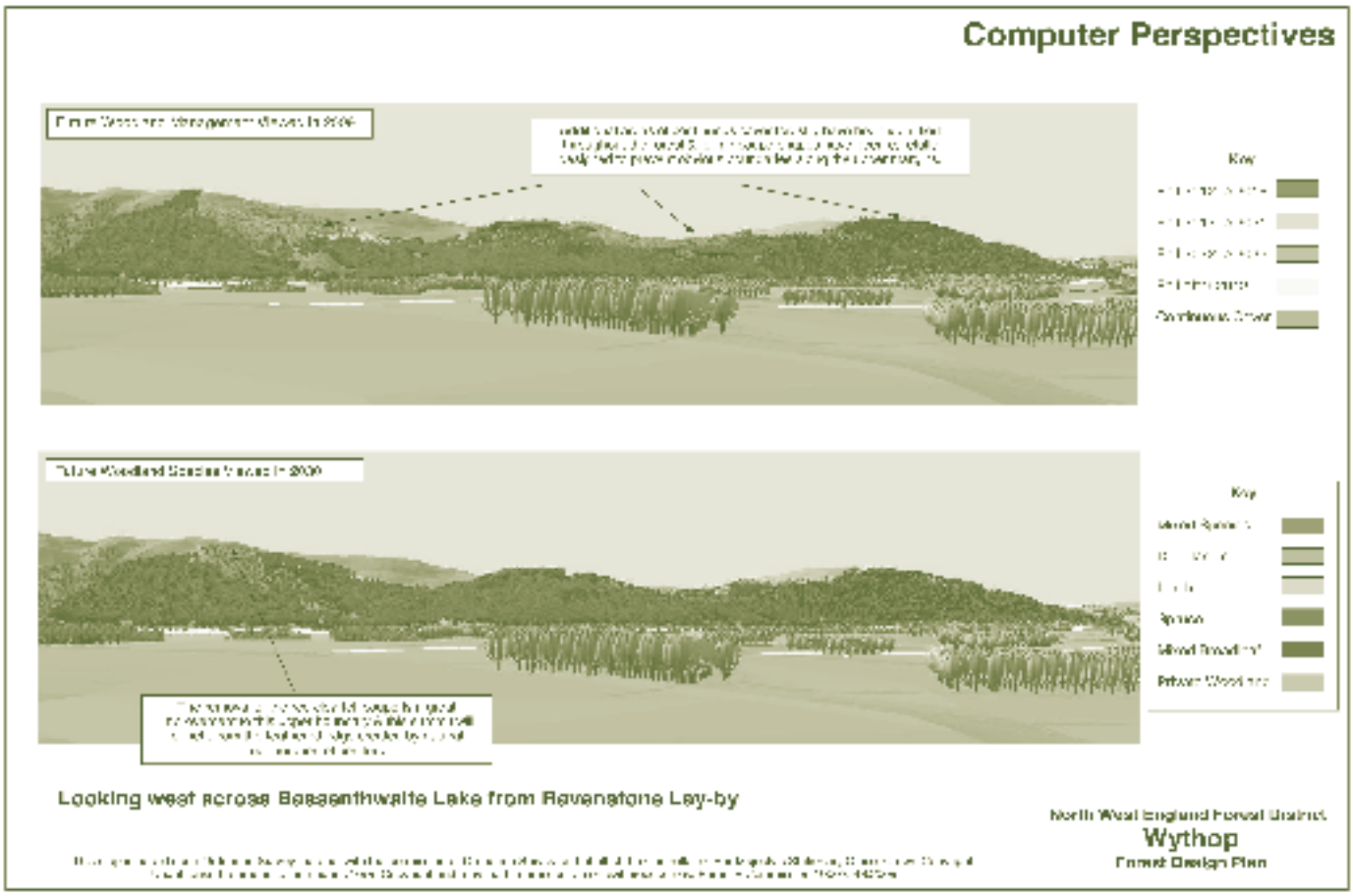
Photographic images are inserted into the plan as well as a written report. The entire work is presented for stakeholder consultation and hopefully approval by the Forest Authority.

Importantly for me, I am still able to be involved in CCF as part of my role is to assess whether areas designated for management under continuous cover are not only appropriate, but also to identify additional areas. There is increasing emphasis on applying CCF where it is suitable and my interest in the subject enables me to assess and evaluate this aspect more thoroughly – for instance by understanding why soil types and wind have an impact.

Having moved to this area to study, I am fortunate enough to still be here doing a job I really enjoy, that is challenging and enables me to apply the new skills I have learnt. Since starting work, I have had little time for other pursuits but I hope to change that and in particular for CCF matters.

Woodland Heritage enabled me to pursue my interest by providing the funding so that I could gain a more extensive experience of these systems. They are also genuinely interested and supportive of my progress in my chosen career and meeting up at their annual Field Weekend has become a regular event. The opportunity to catch up with friends and make new ones is as enjoyable as listening to and being inspired by so many of the individuals who also make their way to the event each year.

Sharon Rodhouse



Mulberry

By John Makepeace OBE

Mulberry wood is certainly a favourite, as is Mulberry vodka. Its lustrous quality and the way the light reflects on any irregularities in the grain, its sharp greeny-gold colour that rapidly turns to a rich Chestnut, and its sheer variety are a delight. Used as 'oysters', the pattern of repeated annual rings is mesmerising.

It was after the 1987 gales that our stock of Mulberry grew. Mulberry trees seem especially liable to fall over, and whilst they can continue to grow when prone, gardeners are less tolerant of this inclination. The largest tree we have come across was one grown at Kew. This became 'Blue Sky' – a desk in Mulberry ***(below)***, 5,000 year old Bog Oak and Holly with a crystal glass sphere by Neil Wilkin.

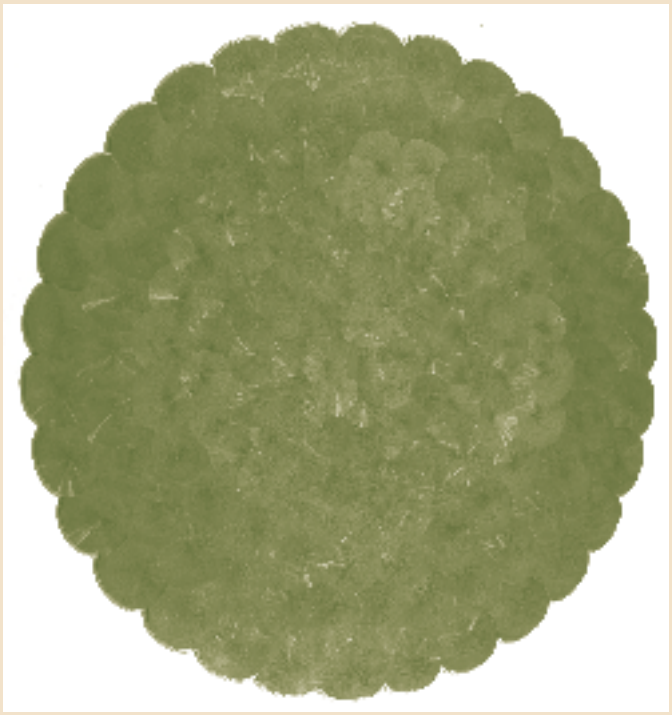
Several commissions have involved 'oysters'. These thin sections across the grain, used as veneers, can be difficult to dry without radial cracking as they give up their moisture so rapidly. Each maker seems to have different methods; our preference is to "size" each as it is cut, and then to put them under pressure to keep them flat.

The top of a table made many years ago, called 'Mulberry Oyster' ***(right)***, was laid concentrically starting from the outside edge. Each 'disc' was individually laid and glued before being scribed and cut away to accommodate the next – a labour of love but a result that the customers still relish.

Those familiar with the Wallace Collection in Manchester Square, London, will recall two desks made in Paris, one for Louis XV, who was so pleased with it he commissioned another for his father-in-law, King Stanislav of Poland. Both took 15 years to build, a wonderful orchestration of many different materials

and techniques. The Whale table ***(above)*** was inspired by the blend of ormolu and timber. On the desks, the ormolu was largely decorative. I wanted to make the bronze elements structural and to combine this with bold oysters of Mulberry. The underside of the table is gold leaf.

The most recent project in Mulberry was a large dining table ***(opposite, top left)***. The room has a semi-circular window wall overlooking the garden. Entering from the sitting room, the leaf shape of the table radiates from a dominant 'stalk'. The saw-cut Mulberry veneers conclude in a series of 'eyes' around the edge, like Peacock feathers, while two



bronze legs follow the line of the inlaid veins complementing the glorious grain.

'Pier' is one of a set of four side tables in Mulberry and Holly *(top right)*, a delightful contrast between home-grown timbers. The Holly legs have been laminated, consecutive layers of veneer glued in a curved form to give the various shapes required for a rigid but visually light structure of which the top forms an integral part. The solid Holly, vertically grained edge was steam-bent across the grain to follow the curve.

Finally, and more modestly, a folding table-lecturn *(right)*, made so that it too can be housed like a book when not in use. As in each example, it is the simplicity of the idea and the attention to detail, both in design and manufacture, that turns a delicious fruiting tree into an heirloom.

John Makepeace www.johnmakepeacefurniture.com designs and makes furniture to commission for customers in the UK, mainland Europe and the USA. His work is represented in many private homes, museums and corporate collections. He was awarded the OBE in 1988 for services to furniture design.

In 1976, he bought Parnham House, Dorset to accommodate his furniture design studios and workshops, to establish the Parnham Trust and the residential School for Craftsmen in Wood, and to open the historic house to visitors where they could see exhibitions of contemporary design and painting. In 1983 the Trust purchased Hooke Park from the Forestry Commission with planning permission to develop a future campus within the 150 hectares of broadleaved and conifer woodland. Andrew Poore managed the woodland over the initial years. Each of the buildings focused on the utilisation of the conifer thinnings in construction in order to demonstrate more economic uses for a plentiful resource and so to enable better management of crops.

World-class architects and engineers collaborated with universities across Europe to determine structural and construction systems that exploit the outstanding properties of thinnings in the round, dramatically reducing waste and saving energy in a series of award-winning buildings.

After John completed 25 years as Director of the Trust, Parnham College moved to Hooke Park and has subsequently been amalgamated with the Architectural Association which runs the practical modules of its international educational programmes there.

Right Tree – Right Place – Right Reason

Dr Gabriel E Hemery and Dr Peter Savill

We have always thought that the old mantra "The right tree in the right place" needs an extra qualification: *"For the Right Reason"*. The additional qualification ensures that any tree planting or management is appropriate. For example, we should not advocate planting trees that have been genetically selected for timber production in ancient semi-natural woodland, or equally plant "locally native" when you want quality timber. Although not mutually exclusive, local provenances only very rarely include tested and improved material.

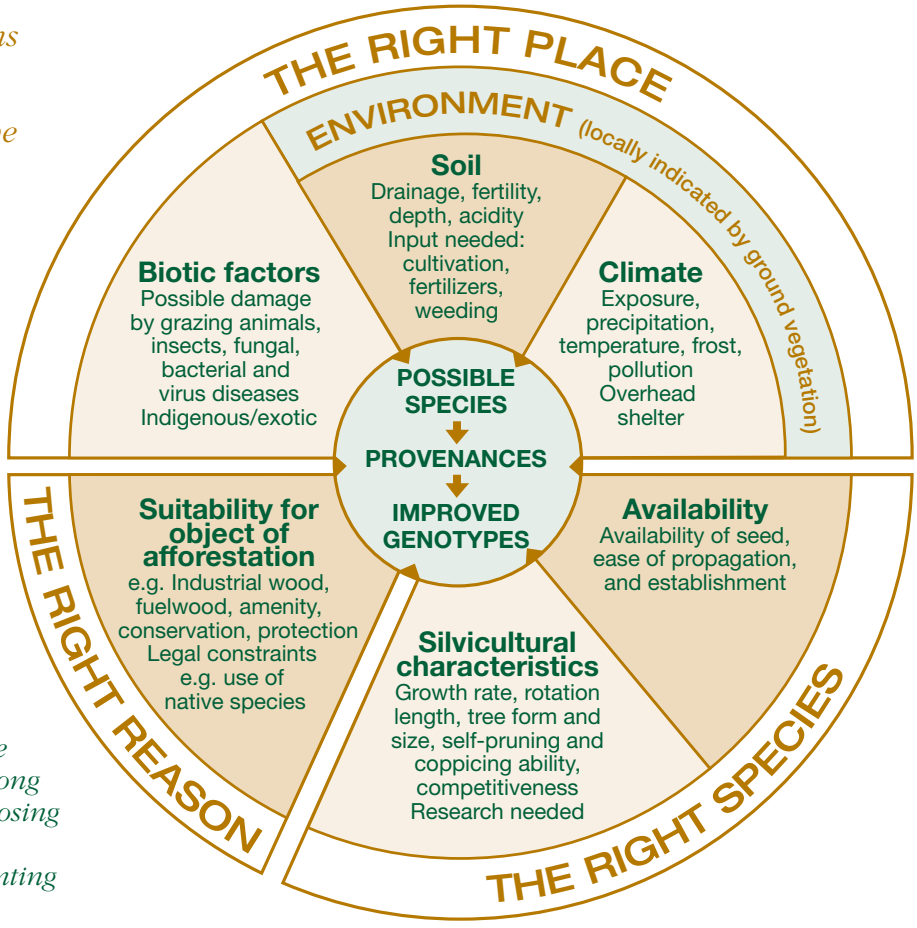
The decision about which species to plant is one of the most important of all in forestry because of the long cycles involved.

An incorrect choice can result in poor health or growth, and even the failure of a crop, and certainly failing to fulfil the objectives of the planting scheme. The stresses imposed by droughts, gales, frosts, and fires, some of which will inevitably occur over a rotation of up to 150 years, could lead to serious diseases or pest outbreaks or even death if species are not well matched to the site. The one or more species selected for planting must therefore be those whose requirements throughout life are likely to be satisfied by the site and climate in question. They must also fulfil the objectives of the planting scheme.

The process of species selection is done in three stages:

1. ***The Right Place:*** determining the characteristics of the planting site in terms of climate, soil, and other factors such as risks of browsing by deer as well as any legal and financial constraints. These characteristics are then matched to:
2. ***The Right Tree:*** deciding which species are likely to thrive in such conditions. Care should be taken to consider the quality of the planting stock and its origin. For example, a hybrid Walnut (non-native and genetically selected) would not be an appropriate choice in some locations, despite admirably meeting a final objective of growing a valuable timber. From among suitable species, those selected for planting must be chosen for:
3. ***The Right Reason:*** deciding which of one or more species satisfy the objectives of the planting scheme. Often the reasons why trees are planted are manifold. For example, you might, perhaps, be planting a landscape screen as well as providing game cover, and simultaneously growing a valuable timber crop.

The considerations to be taken into account are summarised in the diagram:



The process of selecting species for planting entails matching possible species to the characteristics of the site. Then, from among possible species, choosing those that fulfil the objectives of the planting scheme.

Bolfracks Estate, Scotland

Growing Broadleaves for Timber Production

Background

Bolfracks has a tradition of growing quality conifer crops but until recently had little in the way of good hardwood. From 1993 to 1995 a total of 31.2ha was planted with mixed broadleaves specifically for timber production.

Site Details & Silvicultural Rationale

Elevation ranges from 140m to 250m and aspect is predominantly north. Soils are generally brown earths, although there are locally gleyed areas.

The brief was to design a low cost scheme using fast growing broadleaves which could deliver a range of quality hardwood timber within 40 to 80 years. The use of a conifer nurse crop was ruled out so it was necessary to select broadleaf mixtures whose growth rates were compatible. Consideration also had to be given to potential problems from pests and diseases and even future climatic change. For these reasons, it was decided that four main species would be used and that planting would be done on a relatively intimate scale, avoiding large blocks of just one species.

The mix of species has also been designed to cater for a wide range of end products, both for existing and potential markets and over a variety of production cycles; Cherry/Birch on a rotation of 30 to 50yrs, Ash/Sycamore on 60 to 80yrs. An important element of this rationale is early identification of final crop trees with heavy thinning around these selected individuals, so as to maximise diameter increment of the best stems.

Establishment

The ground was prepared by agricultural plough *(see photo below)*, with rows at 2m centres. This was then consolidated to make planting easier and to reduce weed regrowth. Planting was carried out at an initial stocking of 2,500/ha.

Survival and early growth was very good, due partly to the excellent weed suppression brought about by the ground preparation. Subsequent weeding was carried out by both chemical and hand methods but despite good weed control, vole guards still proved necessary.

Growth of all species has been very rapid and Yield Class has been assessed as 10 to 12. Some of the elite Birch received their first thinning in year ten by which time top height was 9.8m. By March 2007 all crops had been first thinned down to an average stocking of 1,100/ha. ***In 2005 the plantations were selected by the Forestry Commission as a demonstration site of best practice for the growing of quality hardwood timber.***

While it has only been 13 years since planting it is clear that a considerable number of useful conclusions can be drawn:

- *The importance of matching species to site and using appropriate ground preparation.*
- *The potential of fast growing hardwood species on the right site and the improvement that selected genetic material can bring.*
- *The importance of high initial stocking and early formative pruning to create the basis of the final crop.*
- *The importance of an early first thinning (by top ht 10m) so as to retain options for final crop trees.*
- *The improvement brought about by thinning and high pruning*

Britain's native Oak under threat

By Dr Sandra Denman, Forest Research Scientist

I was mulling over how to get my message across to the Woodland Heritage readers when it occurred to me that 'Heritage' is the central issue. What if Britain's most iconic and important broadleaf tree, the native Oak, was to be reduced to a shadow of its current level? How would this affect the heritage we pass on and what would it say of our curatorship of it? The robust English or Pedunculate Oak, Quercus robur, and the stately Sessile Oak, Q. petraea, are intrinsic to the environment in Britain. Oak is also a key ecological component of woodlands, and significant in parkland and garden landscapes in rural and urban settings. Without doubt it is an important part of British cultural heritage as well. Surely it is unthinkable that we could be without them.

Oak is 'tough and well prepared for several maladies' as Bede Howell (who has 50 years forestry experience) recently pointed out at the Gloucestershire RFS day in the Forest of Dean. Experience and documentation tell us however, that there are some pest and disease attacks that Oak cannot survive. Oak wilt caused by the fungal pathogen *Ceratocystis fagacearum* is one such example and fortunately does not occur in Britain but is fatal to Red Oak in North America.

But a new and sinister threat to the existence of native Oak in Britain has made an appearance in England and Wales, and is spreading. What is worrying about this new 'disease' is that a significant number of trees are said to die within three to five years of the onset of symptoms and an increasing number of sites are reporting symptomatic trees. Many Oak trees in Britain are already affected by existing pest and pathogen problems and this together with a new, very destructive and easily transferable pathogen could place overwhelming pressure on trees in their prime.

Termed ***Acute Oak Decline*** *(AOD)* this damaging condition occurs on mature Oak (trees more than 50 years old) and is identified by dark, vertical stains or streaks of fluid on trunks of affected trees, a symptom called stem bleeding *(Figure 1)*. Both Pedunculate and Sessile Oak are affected. In an advanced stage of attack symptoms are unmistakable *(Figure 2)*:

Figure 1: Early stages of AOD.

Figure 2: Progressed AOD symptoms

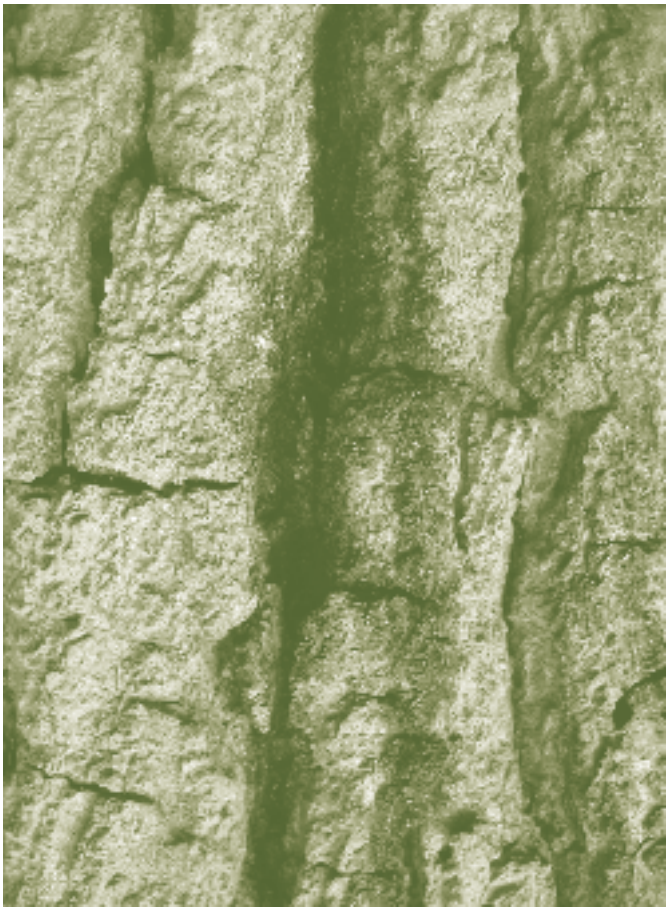


Figure 3: Close up of stem bleeding.

Figure 4: Cavity below the bark.

extensive bleeding or oozing of tarry fluid from multiple small splits in the bark ***(Figure 3)*** occurring at close intervals all the way around and up the stem, even progressing into the canopy. In the early stages when there are fewer bleeds restricted to certain parts of the trunk, diagnosis based on symptoms can be difficult.

Other agents can also cause stem bleeding for example ***Phytophthora*** and even the honey fungus, ***Armillaria***. That is why verification of the cause of stem bleeding is essential to confirm AOD as the culprit. Unlike the highly visible stem symptoms, the canopy of trees with AOD may not show any indication that the tree is affected until it is close to death. The inner bark or phloem is the primary area of the stem that is attacked. This tissue is killed and broken down leaving fluid filled cavities beneath the bleeding points on the stem ***(Figure 4)***. Phloem is the food conduit of the tree transporting nutrients to the roots and if it is sufficiently disrupted and broken down it leads to death of the tree.

At Forest Research we are working hard to understand the cause of this episode of AOD but as with all declines it is unlikely to be simple; there will probably be more than one agent involved. ***However, that said, the current thinking is that a bacterium is likely to have a key role in causing the stem bleeding. This organism, soon to be named, is new to science.*** The next immediate research priority will be to scientifically prove that this bacterium does indeed cause the bleeding patches, a process called 'Koch's Postulates'. This is achieved by inoculation tests. Once trees in the environment are infected by the bacterium further attack by other organisms such as the larval stage of the buprestid beetle, ***Agrilus biguttatus*** (previously known as ***Agrilus pannonicus***) will hasten tree death ***(Figure 5)***.

To date all known cases of AOD are self reported, with 57 sites currently known, but the number is growing weekly as new cases are drawn to our attention. The focus of the outbreak appears to be the Midlands but extending to the south and south-east. Because diagnosis of symptoms is not straight forward new sites need to be visited and a sample must be taken to verify whether the bacteria are present.

A few cases reported to us turn out not to be AOD. Site visits and sample verification are both costly and time consuming. However, in all cases where we have been able to carry out diagnosis the bacteria have been present and this adds to our confidence of its causal role. A similar condition has been discovered on Holm Oak (***Quercus ilex***) and the Pyrenean Oak (***Q. pyrenaica***) in Spain. In cases where symptoms of extensive stem bleeding and tree

Figure 5: A larval stage of Agrilus biguttatus. Photo: Louis-Michel Nageleisen, Département de la Santé des Forêts, Bugwood.org

mortality are reported, Spanish scientists also implicate a causal role for bacteria. ***Our tests show that the British and Spanish bacteria from Oak trees with symptoms of stem bleeding are the same. Once again this contributes to accumulating evidence for a primary role of the bacteria.***

We are making inroads into answering to the question of how AOD is transmitted but this is likely to take several years of research. In a joint project between Forest Research and Imperial College London, an MSc student *Nathan Brown*, did a study on the spatial distribution of affected and non-affected trees at four sites last year. He found that symptomatic trees do not appear randomly on a site but tend to be in clusters. This suggests that infection spreads from initial infection points.

There was also a significant co-occurrence of AOD symptoms with exit holes of the buprestid beetle *Agrilus biguttatus* suggesting that *Agrilus* might play a limited role as a vector of AOD. However, *Agrilus* exit holes were only observed on a small number of Oaks with bleeding symptoms so it may simply be behaving as an opportunist, which attacks weakened trees.

Clearly a key issue facing us is how to manage this problem to reduce losses, and contain and prevent spread. Time is of the essence because it appears that the incidence of AOD is increasing and the epidemic is therefore moving closer to a tipping point beyond which it may be out of control. Management research is urgently required.

At the moment guidelines on how to manage the situation are available *(www.forestresearch.gov.uk/AODmanagement)* but these are based on general principles and what is really needed are evidence based answers. The issues are complex and for example, if felling is used as a management tool, there are serious implications for practices around stump treatment, removal and disposal of the bark and sapwood, as well as timber salvage.

Similarly if pruning work is carried out disinfecting tools is crucial because bacteria could be readily transferred from tree to tree on tools. *(Woodland Heritage highlighted this point in 2005.)*

Recommendations based on results of research that has been specifically designed to work out the best way of managing infected trees in different situations are therefore required.

Apart from research to underpin management of affected trees there are other core issues that research has to address urgently. These were identified at the request of the Director General of the Forestry Commission and are under discussion by the Commission with Defra. The research will be costly and raising the funding difficult but progress depends upon resource.

Forest Research will have to bring a component of the funding in from external sources and will continue to seek this support from stakeholders. ***Woodland Heritage is exemplary in this regard and we are most grateful to the organisation for procuring some funding already which, together with a contribution from Natural England, has allowed surveillance of more sites with suspected AOD.***

We welcome the participation of *Woodland Heritage* and on behalf of the Oak team – Susan Kirk, Nathan Brown and Joan Webber – I thank your charity sincerely for what it has achieved to date. These efforts aid us in safeguarding Oak for future generations.

Dr Sandra Denman
Forest Research, Alice Holt Lodge,
Gravel Hill Road, Farnham, Surrey GU10 4LH

Sandra Denman shows an Acute Oak Decline trial on Oak saplings at the Alice Holt Research Station. Trials on mature trees still have to be conducted to reproduce the disease as it occurs in the environment.

Important Message from our Trustees

Sandra Denman's plea for supplementary funding has certainly not gone unnoticed by the Trustees of Woodland Heritage because Acute Oak Decline (AOD) is potentially a catastrophe waiting to happen. Therefore we have been proactive in joining together with other tree and woodland organisations in raising the profile of this vitally important issue.

Woodland Heritage, The National Trust, The Woodland Trust, The Tree Council, The Royal Forestry Society, The Arboricultural Association, Natural England, The Duchy of Cornwall, The Institute of Chartered Foresters and The Country Land and Business Association have collectively written letters expressing their concern at the potential threat AOD poses to Britain's trees to Hilary Benn (The Environment Minister) and Huw Irranca-Davis (Natural Environment Minister). ***These letters have astonishingly gone unheeded !***

Much publicity has recently been given to a very serious disease called 'Sudden Oak Death' (SOD). The name originated in America where more than a million Native Oak and Tan Oak in coastal forests of California have been killed by a fungus-like organism, *Phytophthora ramorum*. This pathogen is also present in Britain but here inoculum is mostly produced on leaves and shoots of wild *Rhododendron ponticum* from where it spreads to stems of susceptible tree species and causes lethal stem cankers. Although Britain's Native Oaks have low susceptibility to *P. ramorum* other tree and shrub species are highly susceptible. At present SOD is causing serious concern in the West Country because sadly, it has now spread to plantation-grown Larch and is killing trees in parts of Cornwall, Devon and Somerset. Massive Government funding through DEFRA was approved to combat SOD — and no-one could doubt this decision.

However, the sooner H.M. Government recognises that AOD has the potential to be a far more serious disease affecting our Native Oak trees the better. Already a major swathe through the finest Oak growing regions of England is affected with AOD.

It is patently obvious that action from our Government to fund Forest Research to help rescue Britain's iconic Oak tree is now at a critical point. The cost will inevitably run into several millions of pounds, but future generations will not forgive us if we do not act now !

My Career Ten Years on...

by Colin Milburn

After returning to Cornwall from the Woodland to Workshop in 2008, I examined my pension wood piles to attempt to use my new found skills. I saw many piles of hole-y, bent, split and incorrectly stacked pieces of timber. The next day I was about to kick the dog, when my wife suggested that my stacks were not copper but gold.

During my ten years as a wood-man and with the help of many people, I have learnt to turn poor quality, badly sawn and wrongly stacked planks into bespoke furniture, buildings and sculptures.

When I started working for myself, I had a small grant from the Sylvanus Trust. My business plan at the time was not really deemed viable. One of their former advisors was surprised to see me still active last year. In many ways, my "business" still isn't viable.

Small craft businesses are falling down daily just like the old trees planted at the beginning of the last century. Hedge-monkey types like myself have to learn how to create a market for the core skills of coppicing, horse-logging and green woodwork.

Learning from my visits to Spain and Finland, I have tried to establish relationships between local people and their woods, to promote the benefits of local timber over cheaper, imported timber and re-establish values beyond short-term and short-sighted profit.

I have adapted traditional designs and jointing techniques to create furniture and outdoor seating that is unique to the trees that I have used. I have learnt to interact with planners, architects, project managers and commissioners to negotiate projects which enable me to work in the way that I believe does justice to the local timber and provide a product that is useful and unique. *I also keep trying to find ways to involve more parties in the projects and promote better understanding of the local trees and what it is possible to do with them.*

Colin with the school children on one of the Boscastle benches.

Unity Memorial Bench, Gwithian Towans.

After the six large Oak benches I made for Coronation Park in Helston, I have made a number of other benches for public sites. This included two Oak benches and tables for the Camel Trail.

I have worked with the National Trust to create outdoor seating for the new visitor centre as part of the Boscastle Flood Regeneration project. Jeff Cherrington, the local NT warden, involved the local school in this project.

I felled Oak trees and extracted them from the Valency valley with Elvis, my logging horse. From this local Oak, I created four large benches. I approached these benches differently and put more emphasis on keeping the organic tree shape, as opposed to milling them into straight lines and right angles. I used the chainsaw to sculpt the benches which gave a much freer form to the work.

The children watched the felling and had to count the rings of the trunk to guess how old the tree was. From the Oak trimmings and a borrowed Elm tree, I made a Herefordshire ladderback chair. The girl who guessed the closest age was then given the chair.

The children wrote words about the valley which were crafted into a poem which I had translated into Cornish by Maga, the Cornish Language Partnership. Max Darrell Brown, the trusty and expert wood carver, carved the English and Cornish texts onto the benches. When I installed the benches, Maga came to coach the children in the Cornish pronunciation.

A short film was made of this project and will be available this spring. It includes the Boscastle

Breakdown, one of the oldest folk dance tunes. A short film about the making of the Helston benches is also now complete. I hope that the films will help promote the possibilities of working with local wood and community projects.

I have also completed a number of memorial benches. One of these is at the head of the river Fowey near Lostwithiel. In 2009, I worked with the Cornwall Wildlife Trust and the parents of Unity Perkins to create a memorial bench for 21-year old Unity who was killed in a car crash. I installed this bench on the site at Gwithian Towans in July 2009.

This was the single most important piece of work I had made to date because of what the bench meant to Unity's parents and also because the bench brought together all the skills I have developed. ***Four days later we were devastated to hear that the bench had been totally vandalised.*** This received a fair amount of local publicity and we are working to secure funds to make a replacement bench.

I have felled some more local Oak. Originally this was to be for a memorial lych gate for Colonel and Marjorie Daniels at St Anthony Church on the Lizard. Planning issues have prompted this to evolve into a pair of memorial benches.

I continue to make individual furniture commissions: ladderback chairs, rocking chairs, tables, stools and beds. I am planning to use the horns and hides from our Traditional Hereford cattle in some of my next furniture designs.

I also continue to work with Natural England and Bodmin Commoner's, coppicing local woods in the Camel valley and scrub clearance and bracken-bruising on Bodmin Moor.

I have also made some chiselled window frames for the Forestry Building at Royal Cornwall Showground. Using other off-cut pieces of timber that Mr Toms at the local saw mill supplied me with, I made frames for an exhibition of paintings. The frames themselves will be incorporated into the next series of paintings.

Lostwithiel Kingfisher memorial bench.

*These will be in a joint exhibition with my work here at the farm during the first week of June 2010 as part of Cornwall's Open Studios. I will be running workshops and demonstrations during that week. For further information, e-mail: **aurora@macace.net***

I remain deeply concerned about the future of forestry in this country. The last *Woodland Heritage* journal included a letter from Lord Nelson to the then government, saying we've made a complete mess of our forestry and he wanted them to plant more forests. What would he see now?

The hard work of South West Forest was brought to an end in 2009 when their funding stopped. Tonnes of archive records were shredded and there is no follow through on the management of the new plantings.

As a nation we are becoming more and more disengaged with our natural resources. There is a continuing loss of knowledge from the real foresters who are leaving the industry, along with the planters, production cutters, hauliers and people managing woodlands.

Future generations are going to be left with a poorly maintained forestry and woodland industry if we are not very careful. So that is precisely why I joined one of the *'From Woodland to Workshop'* courses, which Woodland Heritage is running. What I learnt from the tutors and other students on the course has been particularly relevant and effective in what I am doing.

Kernoviae is a tree disease rampaging through Cornwall killing rhododendrons and some other species. The disease has now jumped into some Larch plantations in the south-east of the county. Knowledge of how it moves around is cloudy. Means to tackle and eradicate the disease are not forthcoming. It presents another real threat.

My business won't become more viable by importing cheaper Oak from France or Belgium or going into mass-production. I will continue to rub two sticks together to make it all add up, to observe the wealth and beauty of the timber growing around me, of finding productive ways to manage and use that on a small scale, to work with Elvis in woods no-one else can access and to promote horse logging as an integral part of forest management.

Above all, I will keep finding ways to prove why the cheapest timber solution is not necessarily the best, and of applying my green woodwork skills in different contexts to ensure that the medieval and modern are together in the future of our forests.

Thank you Woodland Heritage for your support over the last ten years.

Colin Milburn
aurora@macace.net

Manufacturer of quality tree shelters

Acorn Planting Products is the longest running tree shelter manufacturer on the market. The company was founded in 1981 by Dr Richard Towler, a professional forester, whose objective was to manufacture a shelter that would provide the best possible growing environment for establishing newly planted trees. This aim is still at the core of Acorn's company policy today.

Brief Background of Tree Shelters

Young trees are very vulnerable to browsing damage from mammals such as rabbits, hare and deer. In the early 1980s a Forestry Commission research team discovered that if traditional netting guards were combined with a shelter environment, a beneficial greenhouse-like microclimate would be created that would enhance the growth of the trees. This led to the commercial manufacture of treeshelters by Acorn, followed later by other manufacturers, and their benefits for establishing newly planted trees are now widely accepted, particularly for slow growing broadleaved species such as Oak.

Acorn's Shelterguard® Plus Range

Acorn's best selling tree shelter is the Shelterguard range. This material uniquely combines plastic netting with a polythene film offering a number of advantages over other designs. In addition to providing a very effective micro-climate, the film enables light to pass through the shelters which allows the trees to grow in a more balanced way, rather than bolting for the top of the tube and becoming top heavy and spindly. This design also provides a clear view of the growing plant, a feature which is particularly useful when using taller shelters. After about five years the film starts to break down leaving a ventilated, free draining netting guard to help the bark toughen up before the shelter finally splits and falls off the tree. Care has been taken to ensure that Shelterguards will blend in as well as possible with their environment, an important consideration on some sites, and they are manufactured from almost 100% recycled plastics.

In order to ensure that there is a shelter design available to suit different species of trees, rather than a one size fits all approach, there are a number of different variations on the Shelterguard:

Treeguard – *A mesh guard with no film*

Very unobtrusive and recommended for use with evergreens. If evergreens are encouraged to grow during their dormant winter phase in an enclosed shelter, they can become top heavy and unstable.

Microperforated – *Tiny holes punched in the film*

Strongly recommended for Beech trees, which can suffer from sooty mould without enough ventilation.

High Exposure – *Film has a shorter life span*

As the name suggests, for use on exposed sites. The film provides a head start, but starts to break down after a couple of years helping the trees harden off.

Biodegradable

A fully biodegradable design which will prevent plastic waste from accumulating in the environment.

Acorn also manufacture and supply a wide range of ancillary products including spirals, stakes, bamboo canes, biodegradable and photodegradable mulch mats, tree ties, vole guards and strimmer guards.

www.acorn-p-p.co.uk

Cornish Business Sets the Standard for Eco-Friendly Timber Products

Cashen Cornish Woodcraft is a small family run business based in South East Cornwall. It is owned and run by Jeremy Cashen from near Tideford, where he lives with his wife, Sam and their three children. Jeremy started the business in 1996, after working in commercial forestry since leaving school.

Feeling disillusioned with the commercial exploitation of trees and woodland, he enrolled on an arboricultural course at Merrist Wood College in Guildford. Following successful completion of the course, he started his own tree surgery business.

Gradually, the business expanded to take in woodland management. This involved thinning and replanting neglected woodlands with native hard and softwood trees. A result of this was a surplus of timber in the round.

Always on the lookout to add value, Jeremy invested in a saw mill so that the timber could be sold and used for building construction etc.

Having seen and been very impressed by a Scandinavian design for hot tubs made of timber, Jeremy researched the market. He found a ready demand for a product that is not only

environmentally friendly in use (it is heated by an under water wood burning stove), but has an extremely low carbon footprint in manufacture.

Whereas other manufacturers import timber from as far afield as Canada and Russia, Cashen Woodcraft is the only hot tub manufacturer in the UK to use only locally grown timber.

The standing trees which include Douglas Fir, Larch and Cedar are carefully selected from Duchy of Cornwall woodlands. Then they are felled, sawn, kiln dried and made into beautiful high quality products, all within a few miles from where they were grown.

Besides their range of hot tubs, the company produces garden saunas and gazebos which are also made from the same sustainably managed local timber.

Says Jeremy: "We are acutely aware of the impact that irresponsible use of the world's resources can have on the environment. This is why we strive to pursue a policy of sustainable forestry management and keep our travelling to a minimum by using local products and materials whenever we can."

"Cashen Cornish Woodcraft"
Tel. 01503 240969
Website: www.jmcwoodcraft.co.uk
Email: info@jmcwoodcraft.co.uk

Gudrun Leitz's Greenwood Courses

15 years in Clissett Wood

This is an article about a remarkable small Herefordshire wood. What is remarkable, apart from its beauty, is that it thrives through being successully co-owned and has demonstrated excellence in many ways.

In 1994, a ten acre (four hectare) wood known as 'New Hill Wood' was jointly purchased by three green wood crafts people and a furniture maker. Mike and Tamsin Abbott, Chris Armstrong and myself renamed it "Clissett Wood" in honour of the famed Victorian chair maker whose workshop backed on to the wood. Adding a further three co-owners and setting up the Clissett Wood Trust enabled its long term success.

Over the years ownership has repeatedly changed as priorities have changed for those involved. Thanks to the spirit of the owners and the well drawn up Trust document, change has been managed well and has led to increased commitment and improvements all round.

Chris Armstrong and I are the only two remaining founders of the group. Making up the group are five more recent members: basket maker Sheila Wynter, greenwood and bushcraft enthusiast Jo Liebert, greenwood maker Debra Olsen, bushcraft and wild woodsman Simon Wayne and mediaevalist and wood carver Eddie Marsh. All five new owners became involved with Clissett Wood through attending one (or more) of my green wood courses and getting the bug!

The current group meets monthly for practical work days and meetings to ensure the smooth running of the Trust. The core of the sustainable woodland management is the carefully developed (and implemented!) woodland plan, overseen by Chris Armstrong.

The current owners group (Back: Gudrun Leitz, Jo Liebert, Simon Wayne, Sheila Wynter, Chris Armstrong. Front: Debra Olsen, Eddie Marsh).

We have all benefited in many ways from our long standing ***Woodland Heritage*** *membership, and Chris is one of the graduates of their* ***'Woodland to Workshop'*** *course.*

One of the principal aims of the managment plan is to improve long term the growing and harvesting of our hard woods. Oak and Ash are selectively felled, horse extracted and milled on site for green Oak structures, furniture and course use. The 'lop and top' enables the owners to be self sufficient in firewood. The Hazel is being coppiced, re-establishing long lost cycles.

The buildings in the wood are designed to have a low visual impact and to sit lightly in the wood. Clissett Wood's celebrated hand hewn cruck barn made of Oak and Sweet Chestnut from the wood was framed and raised in 1997. In 2008 many of the original timber framers came back to hand hew the next thinning of Oaks and Chestnuts for a timber framed wood store. The workshops for my green wood courses have been enlarged and improved with Wild Chestnut frames, and we have experimented with many different 'designs' of green wood shelters. ***Nonethless, the majority of the woodland is left as it should be, for timber production, biodiversity and beauty.***

Hand hewing overstood Oak thinnings for a timber store, 2008.

Now in their sixteenth year in Clissett Wood I run a wide range of chair making and pole lathing courses from Spring to Autumn. In winter I continue to make to commission. My courses have always encouraged the diversity possible in green wood chair making, exploring contemporary interpretations while

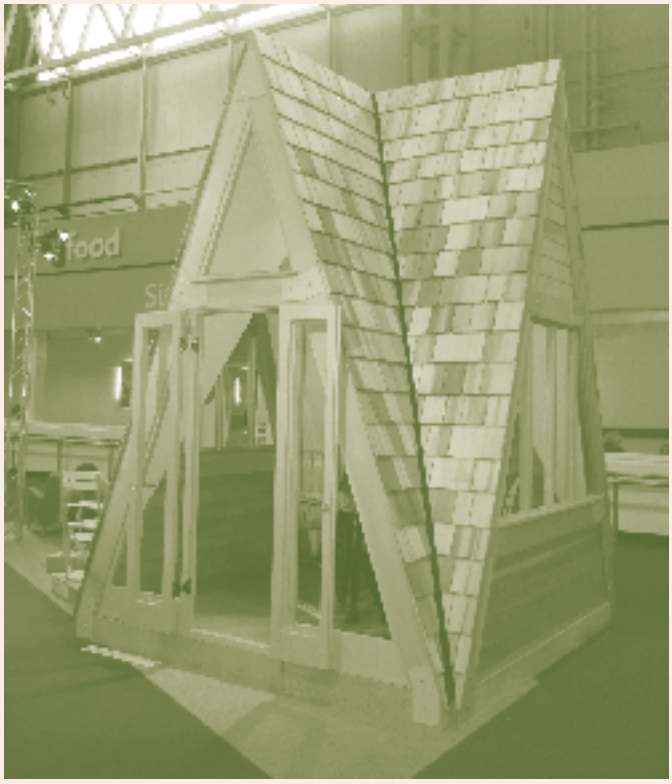
Framing the end gable of the timber store in Clissett Wood car park (2008).

investigating traditional tools, methods and styles. In 2009 Clissett Wood proudly celebrated its status as the longest established woodland centre dedicated to green wood crafts, and the courses themselves are filled with students returning again and again.

Many novice and skilled furniture makers have enjoyed time in the woods and translated their chair designs into adventurous cleft and free form pieces. But none have provided me with the challenge posed by designer Chris Eckersley who works in collaboration with ***"Sitting Firm"*** (Woodland Heritage supporters). Having designed a contemporary Windsor chair with unique stretcher triangulation for ***"Sitting Firm"*** he came on a course to learn to make a chair by hand himself. Inspired by his week in the woods he requested a special course for nine of his designer friends in early April. The group intend to take their creations overland to the Milan Furniture Fair in mid-April ***(see overleaf)***. I have been invited to exhibit a chair with them.

After fifteen years of committed co-ownership of Clissett Wood I would surmise that new skills, fresh impetus and a certain 'youthful' energy have made

July 2009 six day course with Chris Eckersley (third on the right).



Newly launched at Interiors 2010: Chris' stunning A Frame Pavilion (in collaboration with 'Sitting Firm').

Clissett Wood stronger, more active and forward looking than it has ever been. The principal aim of green wood crafts, chair production and teaching has been broadened by the wider woodland management activities bringing a renewed and deeper life and vitality to the wood itself.

Clissett Wood Trust holds an annual Open Weekend as part of Herefordshire's Arts Week (www.h.Art.org.uk) with exhibitions, craft demonstrations, falconry displays, horse and cart rides and much more. Dates are 18th and 19th September 2010; more details will be published on www.greenwoodwork.co.uk.

Gudrun Leitz

Prickly Nut Wood Apprentices

Ben Law received some 32 applications from individuals who wanted to join his Volunteer Apprenticeship Programme at Prickly Nut Wood in West Sussex for the 2009/10 season.

Based upon the nature of their experience and circumstances, 15 were chosen to join him for a selection week last September which allowed him to spend time to get to know each of them, as well as to form an opinion of their potential. Those who were not successful at least went away having acquired some new skills and a week's experience of life at the sharp end.

Decisions are not made lightly. Dedication and commitment are important factors, as living and working in a wood involves going back to the basics. Ben is passionate about his work and his life and it is vital that his chosen apprentices have a good working relationship with him, as well as each other, in order to maximise the unique learning opportunity that he offers.

Having shown potential during the selection week, ***Nicholas Owen*** and ***Kristian Vill*** were chosen to start in November 2009. They are both in their mid twenties and keen to gain as much experience and knowledge as Ben can offer. *Woodland Heritage has agreed to part fund and to help them with further skills training to obtain their vital chainsaw qualifications.*

Nicholas comes from Southport. He has had experience working as a steel erector, an electrician's mate, in helping tree surgeons and is now committed to working with woodlands.

Kristian studied History at University and then went on to gain valuable experience through voluntary work in Kent and Carmarthenshire woodlands.

Ben is confident that they will both do well and we look forward to welcoming them both at our next

Nicholas Owen.

Kristian Vill.

three-day *'From Woodland to Workshop' course in May 2010*. This experience will further add to their overall education and enable them to meet others in the wood chain. A full report of their year with Ben will appear in our 2011 Journal.

Several of Ben's previous apprentices have also attended our course – ***Barney Farrell***, ***Thomas Baker***, ***Richard Bates*** and ***Tristan Bund***. Barney is now managing a 55-acre wood for a client, as well as helping Ben with groups who are studying for an Open College Network Sustainable Forestry Course Level 3 in basic coppice crafts. Thomas Baker is coming back from N. Ireland in 2010 to help Barney in his wood and to work on a 'build' that Ben has lined up. Tristan (a former architect) is working on the line drawings and illustrations of timber joints for Ben's new manual/book on 'Roundwood Timber Framing' and Richard is now running his own green wood working workshops and chair making courses and will return to help Ben in the Summer months too with his round timber framing projects in Sussex.

www.ben-law.co.uk

Hunter Blair Trophy **2009**

Hardwood management on Scotland's west coast: Strone Oakwood, Glen Orchy

Glen Orchy is located in the west highlands of Scotland, approximately two hours North of Glasgow and reached from Fort William by a traverse of Glencoe and Rannoch Moor. An unlikely place for a productively managed Oak wood, but the scene of silvcultural excellence for Forestry Commission Scotland's hardwood management unit.

'Lorne Forest Mill' was set up as an in-house marketing project, apparently comprising about ten percent of one forester's time, in 2007. The aim was to find a local outlet for hardwoods and premium (aka 'weird') conifer species. ***The driver for timber production from the many neglected, but historically well managed, Oak woodlands in the area was to bring them back into a working cycle – while respecting and enhancing their enviable biodiversity.***

The management of Strone Oakwood, a 65 Ha mosaic of scattered remnants with commercial conifers in between, was recognised by the Royal Scottish Forestry Society in their Scotland's Finest Woodlands Awards 'Silvicultural Excellence' category in 2009. We are very proud of this cachet, and pleasantly taken aback by the judge's enthusiasm and encouragement, so we lost no time in embarrassing ourselves in the local press *(see picture below)*.

Kate Tuer.

This year we continue operations in Strone, with another area of 6.0 Ha to crown thin in the main block. Each tree has been marked and inspected for bat habitat and rare/important lichens and mosses.

Peter MacDonald (Foreman), James Nairn (Sawmiller), Kate Tuer (Forester), pictured with the Hunter Blair Trophy for 2009, in the Lorne Forest Mill yard.

We hope to start felling by the end of January, with extraction by skidder following as soon as possible to take advantage of the frozen ground.

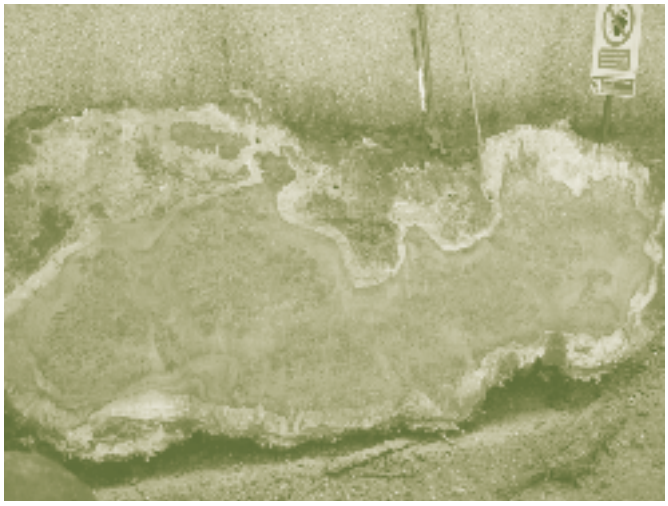
The hardwood forester role has since grown to include management of a small timber yard, including mobile sawmill, air-drying store, sawn timber and firewood sales – and is now allocated 10% of a forester and 20% of a foreman!

FC Scotland have now begun a process of production forecasting for their niche products, including hardwoods, and hopefully we'll see other areas of the Estate bringing these to market in future.

The current volume produced, of round and sawn timber, is approx. 450 m^3 per year – total value £26,500 in 2008. Softwoods include Douglas Fir, European Larch, Western Red Cedar, Sequoia and Hybrid Larch, hardwoods include Oak, Beech, Ash and Gean. The average price received for Oak is £96.00/m^3 and for softwood £45.00/m^3. Hardwood firewood sells at £35/tonne, mainly to salmon smokeries, and softwood firewood for £25/tonne.

Peter MacDonald.

High quality softwoods are spotted pre-sale in the large conifer parcels that FC traditionally sells in this area – usually parcels of 10-30,000m^3 of Sitka Spruce. A few fine Douglas Fir, at 65cm+ DBH and topping 41m, would soon be lost in this case – but we have become adept at siphoning them to our local house builders and architects. (Staff hereabouts have been well educated by myself and Peter to recognise a potential 'niche market' product – possibly encouraged by the annual malt whisky award to the finder of the most valuable log!)



Burr grain in a through-and-through sawn Oak log at Lorne Forest Mill, 2008.

Attending the excellent 'Woodland to Workshop' course in Hereford earlier in the year was a highlight in the hardwood careers of the team – knowing more about the processes and finished products for each timber has helped us tailor our sales for different groups of customers.

Kate Tuer

Peter's Postscript

*Every once in a while one is lucky enough to meet a young person with "something special" about them. At the September W2W course, Lewis, myself and our team of tutors were all in agreement that **Kate Tuer** was that very person – constantly questioning, always athirst for more knowledge, effervescent and an inspirational companion to her fellow students.*

Extraordinary stories about her work with Peter MacDonald and their small F.C. team in Scotland came flooding out (after a few pints) and we were spellbound at her dynamism. Quite how Peter keeps her in check is another story in itself, but we could not let Kate go without giving her a memento of our course. Accordingly, a Silky telescopic high pruning saw was dispatched to The Frozen North, in the hope that she will never lose sight of our support as she continues her forestry career. Here is her reply.

Inverness-shire

Dear Trustees

Thank you very much for the excellent Silky high pruning saw; I shall go forth, and prune!

Many thanks also for providing an unforgettable course – by far the best holistic approach to forestry and timber use of the many efforts out there. As you read this, Peter and I will be putting our new found knowledge into use at Lorne Forest Mill ….

Best regards – and thanks again.

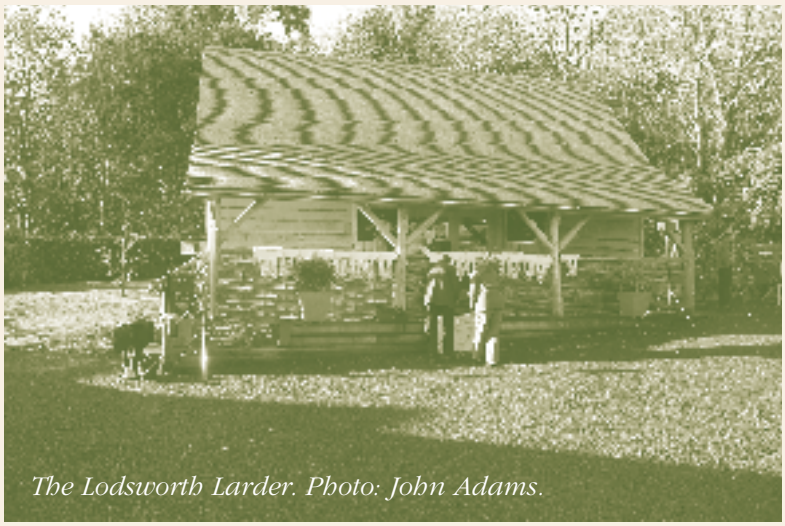
Kate Tuer

The Lodsworth Larder

by Maddy Harland www.permaculture.co.uk

In an economic climate where village shops are closing rather than being built from scratch, it takes a man like Ben Law to create an entirely new type of building, made from local timber, and to ecological specifications.

Lodsworth in West Sussex had a village shop 15 years ago, but it closed leaving local people with a 15 mile round trip to the nearest town to buy even a pint of milk. The village wanted their shop back and were keen that it should support local businesses and suppliers providing local produce, all profits being reinvested back into the community. Because the build was to involve some training and introduced new skills – and there was an element of volunteering by local people on the project – the committee successfully raised funds from various private trusts and local councils.



The Lodsworth Larder. Photo: John Adams.

LOCAL MATERIALS

The shop was designed with a 79m² (850ft²) footprint and is based on the same principles as the woodland house, using locally sourced timber. "The Oak felled for the floor boarding, cladding and underfloor support beams was from derelict Hazel coppice that hadn't been cut for 40 years. After coppicing, during May over 30 violet helleborine orchids bloomed in that area," says Ben.

The felled Oak was taken to W L West & Son sawmill in the parish (a mile away) and sawn, kiln dried, planed and delivered to the village shop site. Sweet Chestnut formed the cruck frames, tie beams and laths to take the lime plaster, and Larch was used for the ridge pole and wall plates. Ben used Douglas Fir for the stud work and joists and Western Red Cedar for the roof shingles, both from the local Cowdray Estate. Ash, taken from derelict coppice, constructed the internal windbraces. Ben even wove the verandah infill panels from local Hazel.

ENERGY SELF-SUFFICIENCY

The building itself has no heating. The heat from the fridges is fed into a heat exchanger and pumped into the shop. Ben used sheep's wool from Black Mountain Insulation. The building itself is passive solar and the walls are constructed with a double membrane to prevent cold bridging. Firstly, there is wany edge cladding on Douglas Fir stud and a Permaforte breathable membrane. Behind this is 100mm (4in) of sheep's wool plus a breathable membrane, and then another 50mm (2in) of sheep's wool on an inner plaster boardwall. Ben thinks this will achieve an A grade in energy efficiency. The wool cost £3,500 and the heat exchanger (from Solo Engineering) cost £4,000, but the prospect of zero heating bills will quickly pay for the technology.

Raising in progress.


Raising the frame.

Electricity is provided by a 2.8kW array from Southern Solar and the lighting is all low energy and LED. There is no concrete in the building. Like the prototype woodland house, the foundations are padstones (reclaimed York stones), which bear the load.

EVOLVING NEW PATTERNS

"This building meets industrial specifications and is engineered for load bearing required for a commercial building with storage," observes Ben. "Over eight builds, we have also evolved and improved our jointing techniques especially for roundwood framing. These joints are new patterns that are appropriate for a new type of roundwood construction, drawn from traditional timber framing and log cabin construction. Many are unique."


The finished shop showing the solar panels.


Ben Law.
Photo: John Adams.

But beyond cost and environmental specifications, Ben feels that a new architectural vernacular is being created and it is one that the planners like and actively support.

Ben Law is author of ***The Woodland Year***, ***The Woodland House*** and ***The Woodland Way***, all available from The Green Shopping Catalogue. Ben and his team will be building a roundwood timber frame classroom at the Sustainability Centre in May 2010.

www.ben-law.co.uk
www.the-roundwood-timber-framing-co.ltd.uk

Association of Pole-lathe Turners and Greenwood Workers AGM

For 2009 the Bodger's Ball headed north to Cusworth Hall, near Doncaster, in Yorkshire. Ralph Sixsmith and his team organised the weekend in May. They came, by car, truck and even push bike until over 200 members had arrived or visited during the weekend. From Scotland to Devon and from most points in between as well. There was plenty of Yorkshire ale and local food and plenty of talk about wood and how to tackle projects large and small.

We had a weekend workshop for some members to build their own pole or bowl lathe. Ten were built by the end of Sunday. Our Warwickshire group brought along their yurt. As well as sleeping in it, they entered it into a craft competition. ***Sean Hellman*** attracted a lot of interest with his wares and demonstration of making wooden birds, as well as his unusual design for a shaving horse.

It was good to see so many younger members coming along and joining in the fun. The tool auction raised some good profits for sellers and satisfaction for buyers. The coracle racing was a quieter affair, taking place early in the morning. The main business of the AGM was to vote for the transfer of the Association to a company limited by guarantee. This was passed and our committee, particularly the treasurer, are busy sorting out the details of this transfer.

Sean Hellman.

Our members' competition entries were a great advertisement for our craft and our skills, which members are always keen to pass on to all-comers. The larger furniture classes were not so well supported, possibly due to the distance some people travelled, but, as always, the variety on display was enormous, including some from our youngest members.

This year the WH Trophy for Best in Show, voted for by members, went to the nest of bowls entered by Robin Wood. This was the first time that this prize was not won by a chair.

Robin got into greenwood working after the storms of 1987, when he started working for the National Trust clearing fallen trees, replanting and building stiles, fences and benches out of timber from the woodland. Later whilst working at Hatfield Forest in Essex helping to reinstate coppicing, he started looking at different ways of marketing the small diameter timber we were producing. He was looking into old woodworking crafts and at about the same time four things happened: He bought a copy of Edlin's "Woodland Crafts of Britain"; visited the Reading Museum; saw George Lailey's pole lathe; and visited the second meeting of the Association of Pole Lathe Turners at West Stow in Suffolk. These things combined were enough inspiration for him to make his first lathe.

Soon after Wille Sundqvist's wonderful book on Swedish carving technique came out, so he played with bowl turning and spoon carving. Both were perfect ways for a forester to learn about the properties of the woods he was cutting. *People often assume that foresters know about wood but actually they know about trees, it was a great way for him to start learning about wood.*

As part of a recent interview for the Bodgers' Gazette, Robin was asked about the timbers he uses. This is his reply. ***"Folk often ask what is my favourite timber and I find it a difficult question because it assumes that all Oak, Ash or Beech are the same. I sometimes find a tree that is an absolute joy to work though the next tree of the same species may be a real struggle and there is little on the outside to tell the difference. Getting the timber into a good workable state is one of the skills of my job, today folk think of wood as green or dry, some know the difference***

between air dried and kilned. In Victorian times woodworkers prepared their own timber rather than buying it ready to use, they talked about wood being, mellow, ripe, frow and all manner of other terms. They talked about the growing conditions that produce the perfect tree for a job, a north facing slope on the clay etc. They will even specify the stage of the lunar cycle it should be felled. All this acquired knowledge has been lost and we have to rediscover what we can."

Robin has been very active with the Bodgers' web site posting demonstrations and photos for all to see and learn from. He uses the internet to help his business grow. "I sell everything direct either via my website or by making to commission. Over the years I have made around 10,000 bowls and plates and these are all still out there gaining me new orders as people come to dinner, enjoy eating from a wooden plate and want one like it at home."

"Life as a self employed bowl turner is good but hard. Like a firewood merchant. charcoal burner, basket maker or whatever, you can make a living at it if you work hard and efficiently, you'll never get rich, but it is a life I very much enjoy. I feel this is an important part of our cultural heritage and feel it is essential to carry the knowledge forward and pass it on to the next generation."

Robin is passionate about his work and also the disappearing knowledge of these craft skills. He has recently formed the Heritage Crafts Association to support and promote heritage crafts as a fundamental part of our living heritage.

Robin Wood – holding the Woodland Heritage Trophy.

To see more of Robin's work or for more information visit: *www.robin-wood.co.uk*, *www.bodgers.org.uk* or *www.heritagecrafts.org.uk*

Log to leg racers.

Our Field Weekend 2009

by David Taylor

Catton Estate, which has been in existence since before the Doomsday Book, resounded to a piercing whistle as our leader Peter Goodwin fought for the attention of the hundred or so delegates to this year's excursion, based on The National Forest, who were happily chatting in the summer sunlight in the mellow redbrick surroundings of the stable yard. But serious business was afoot. We were ushered into what was laughingly described as a garage, but which could have accommodated at least half a dozen Route Masters, and introduced to both the forest and Sophie Churchill, Chief Executive of the National Forest Company.

From a less than standing start in 1991, The National Forest has grown to occupy 200 square miles – about 20% of the original 'area of search' singled out for the purpose by the then Countryside Commission. This was a landscape largely devoid of trees. It stretches from the western edge of Leicester, to Needwood, west of Burton-on-Trent. It embraces all kinds of landscapes from rich farmlands to the granitic hills of Charnwood, and includes a wide range of human habitats from the prosperous rural commuter villages in the Trent valley to the disadvantaged deep mining villages of Leicestershire and South Derbyshire, scarred by mineral extraction and unemployment; it embraces the towns of Burton-on-Trent and Ashby de la Zouch and is bisected by the M1 and the M42. *Its early years were a story of winning the hearts and minds of the landowners and voters who viewed the whole exercise with some suspicion or even hostility.*

That this was achieved is a tribute to its pioneers and to an incentive to its farmers, mineral companies and any other owners and occupiers of land, which was both ingenious and effective, the National Forest Tender Scheme. This invited landowners to tender a price at which they would convert land mostly to woods, but including open space and provision for bio-diversity and recreation. An annual pot of cash was then distributed to the planting schemes deemed most worthy by The National Forest Board. And Catton, over which we were conducted on two huge trailers towed by equally huge tractors, made one of the original successful tenders.

Sophie, who claimed to have the best job in the world, happily reported the evolution of the forest from its original 6% of woodland to the present day. *There is no question that in social and economic terms the forest has been a smashing success. The forest has breathed new life into the formerly depressed communities at its heart.* A change of heart, a change in environment and ambience, and a renewed pride is reflected in a recent survey which revealed that over 80% of respondents are very happy with the forest. Housing stock has improved and house prices have risen, but the whole quality of life has changed for the better in less than 20 years.

Our tractors carried us smoothly across fertile fields alongside the smug and silvery Trent up onto low hills and into delightful mixed woods planted with the help of the Tender Scheme. These were largely

mixed hardwoods. ***Robin Neilson***, owner of Catton, gave us a run-down of the Tender Scheme from the applicant's viewpoint, and we walked through plantations that surprised many by their vigour and development. This had been arable land, and foresters are so used to working with less blessed sites that to hear Robin complaining that rascally Ash was invading his entire property came as a cultural shock to many.

Here a pattern began to emerge. The success of these early plantings had obviously caught many of the original planters by surprise as well, and now faced with a choice of either spending money on thinnings and prunings, or sacrificing the quality of future crops by lack of timely attention, there is something of a vacuum. Which nature, in common with Woodland Heritage, abhors. More of this anon. *But existing Oaks at Catton pointed to its potential to produce real quality,* as we saw as we trundled back through this delightful estate, which has confronted the 21st Century by developing all manner of profitable recreational sidelines without compromising its history, or its appearance.

It was a real pleasure to have with us ***Mr and Mrs John McHardy***, who need no introduction in these pages, and Peter presented John with the 2009 Peter Savill Trophy for his lifetime's contribution to British forestry, and Robin Neilson with the traditional beautifully turned wooden bowl for his contribution to the morning and we went off to have lunch in the shade.

By some logistical miracle, or the widespread use of SatNav amongst the membership, we all arrived at the next stop, ***Sence Valley Forest Park*** on the other side of the forest at Ibstock. Here the original moving force in The National Forest, former Chief Executive ***Susan Bell***, gave an account of the early trials and tribulations, of which Sence, an opencast coal site described as looking like the back of the moon in 1995, was just one. Now it is a varied vigorous wood,

A symbolically charred timber sculpture by renowned artist David Nash R.A. depicting the coalfield.

Robin Neilson, our host.

with open water, artworks and a strong public appeal, a transformation mirroring the development of the forest, at all levels, and everywhere. Again, now that establishment on a restored mineral site is complete; the unresolved question is what happens next? ***David Rose***, of Forest Research, discussed the possible dangers of Red Band Needle Blight on the Corsican Pine, which formed the matrix of the planting scheme, but whatever the threat, it was generally agreed that trenchant action to thin, or re-space the original plantings is now due. But will it happen? And what are the implications of neglect? And, philosophically, do the achievements of the forest project in regenerating and revitalising a disadvantaged area, in bringing in new investment and new employment and recreational opportunities, rather overshadow the need for the forest to deliver high quality woodland management and produce? *Susan thinks in terms of overall excellence. Further comment, as they say, is superfluous.*

Visit three was in the hands of ***John Lockhart*** of Lockhart Garratt to the ***Royal Forestry Society's Battram Wood***, a smaller but no less searching navigational exercise. And an equally challenging management problem. The RFS acquired about 40 hectares of Grade Three farmland, and again seemed taken aback by their very vigorous creation, to a rather ornate plan proposed by a design competition. One was put a bit in mind of a happy and contented

angler, fishing in summer warmth, who suddenly firmly hooks a large and dangerous fish with which he now has to deal. ***David Rose*** didn't help by diagnosing Phytophthera on the Walnuts, and by finding suspicious needles on the obscenely fast-growing Corsican. Pruning, tending and thinning are going to be a cost item, one faced, said RFS Management Committee Chairman ***Andrew Woods***, by very many of their members at present. It was left to ***Tony Spencer***, Past President of the RFS to make the pragmatic judgement for which he is rightly famous. *Don't panic, leave some of it to sort itself out, but improve the best bits was the gist.*

We filtered home to our various roosting places, took a jolly supper in Lichfield, and slept soundly. Lichfield's most famous son was of course, the lexicographer Dr Samuel Johnson, who when asked by Boswell if Fingles Cave was not worth seeing, famously replied that, *"It was worth seeing, but not worth going to see."* He might have been more enthusiastic about The National Forest – we were!

Another warm and sunny morning found us with ***John Blunt*** at ***Staunton Harold Hall*** *(below)*, an estate, which had been broken up and asset stripped in the past, but lovingly re-assembled by the Blunt family. The hall itself, the largest house in Leicestershire, had eluded their grasp for a long time, but against their better judgement they had acquired

this last piece in an amazingly ambitious jigsaw, which had restored the 2000-acre estate to something like its original form. We looked at the estate sawmill, an endangered habitat these days, but steadily working through a list of orders from local farmers and builders. Small hardwood sawmills and mobile benches are the future for the hardwood trade in England, said WH Trustee ***Roger Venables***, and he should know.

The 400 acres of woods included Rising Wood, a former Oak wood which had disappeared into the maw of some giant excavator, which went on to remove 4 million tonnes of coal from depths of 150 feet below the surface. Site restoration was closely supervised by ***John Blunt***, so that the surface was plantable and workable. Trees had responded amazingly well, and looked fit healthy and vigorous. With the Oak wood went the original universal bracken and all traces of deer and squirrels, cut off from the restored site by the M42 along the Northern boundary.

Yet again, the question arose, what happens next? Where are the resources to tend and improve these impressive young broadleaved plantations to produce

The Staunton Estate Forestor bandmill at work.

the quality timber, which *WH* sees as a prime objective of management and silviculture? How much does it matter? The answer seems to be rather unsatisfactory at present, with Tony Spencer's pragmatic approach the best of a series of poor options. *A new challenge for Sophie Churchill and her team; the future of The National Forest, in silvicultural terms at least, must be more about quality than quantity.*

It was at this point that my attention was distracted by watching Lewis and Belinda gracefully sipping mineral water from plastic bottles, a process that put me in mind of a couple of gazelles drinking from a waterhole in the Serengeti, but watch out, Ted Green was about, and began a number of his typical contributions some of which could not go completely unchallenged by the sparky *WH* membership.

We moved on across the road to the ***Jaguar Wood***; not a good place for gazelles, one might think, but the name refers to Jaguar cars not cats. This arises from the unlikely alliance of Jaguar with The National Forest and Northmoor Trust, and the more usual, but no less exotic partnership of ***Gabriel Hemery***, ***Jo Clark*** and ***Karen Russell*** gave an excellent account of the potential for Walnut in the UK, the research plot in which we stood, and the unsung profits to be derived from nut production. Walnuts can and do grow straight and tall, need shelter from winds and frost in their early years, and can be

Left, Gabriel Hemery, and Jo Clark, discussing their Walnut trials.

selected for nut production, or timber quality. The Walnut grower's 'Vade Mecum' is in the process of translation from French by ***WH*** and should be on general release soon. Squirrels got another mention. The forest is, as yet, not too badly affected by greys, but it sure will be very soon. ***Squirrels and Walnuts don't mix.***

We strolled out of the wood (that curious little vetch that many noticed is ***Lathyris nissolia***, Grass Vetchling) and made our way back to Staunton Harold where we had a sunny picnic overlooking the lake. (How does Peter arrange the weather for these trips? Perhaps he can now reach a Higher Authority even than our Patron Prince Charles.) Thanks were said and presentations made to our host, to John Blunt, then we motored off in a slightly shambollic motorcade to ***The National Trust's Calke Abbey***, renowned as the 'time capsule' house.

Our first stop was South Wood, the largest Oak wood in Leicestershire at 90 odd hectares. ***Ray Hawes*** of The National Trust gave us an alluring glimpse of the veneer butt quality Oak reputed to lurk in the further corners of the wood, with giant crab apples and other rarities. But we had only time to see the plans for regeneration of the Oaks and some of the problems faced by Tim, the Warden, such as deer, and underground fires in coal seams opencasted this time by rabbits. ***This wood, mentioned in Doomsday, would surely repay a much longer visit.***

So we reached our last stop, to look at veteran trees in Calke Park. ***Ted Green of the Ancient Tree Forum*** enrolled us all as members and having got us onside by this ruse, took us on a fascinating walk through the truly astonishing parade of veterans, mostly Oak but with some massive Sweet Chestnuts and small-leaved Limes. We were introduced to ***"walking trees"*** whose branches layered into the ground and which took on a life partly of their own, partly of their parents, and were taken back into the

Ray Hawes, the National Trust head forester.

mind of Charles the Second, whose childhood memories of hide and seek among the hollow trees of Richmond Park suggested a safe hiding place from the Commonwealth troops inside rather than up a veteran Oak after the Battle of Naseby. He went on to encourage John Evelyn to produce what was perhaps the first veteran tree register. We finished beside just such a tree, estimated to be over a thousand years old and just part of our unique heritage of ancient trees. Eighteen of the world's twenty most historic trees are in the UK, but are unconsidered by our Heritage and Countryside agencies and NGOs.

Ted Green famously claimed that the aura of very old trees made it impossible to argue while underneath them, and there is obviously something in what he says, for ***WH***'s propensity for a good rammy was temporarily suspended, and we left Calke in a golden glow of yet another very stimulating and successful tour.

As usual this is down to the mixture of Peter's inimitable skill in choosing venues, and Belinda's sure-handed administration. That, and the company of so many knowledgeable and friendly participants.

Where will ***Woodland Heritage*** be going next year, Peter? Must get it down in my diary.

David Taylor

Field Day

Gathering outside Staunton Harold Hall.

Susan Bell and John McHardy.

Roger Richardson

Karen Russell.

David Davenport.

John M

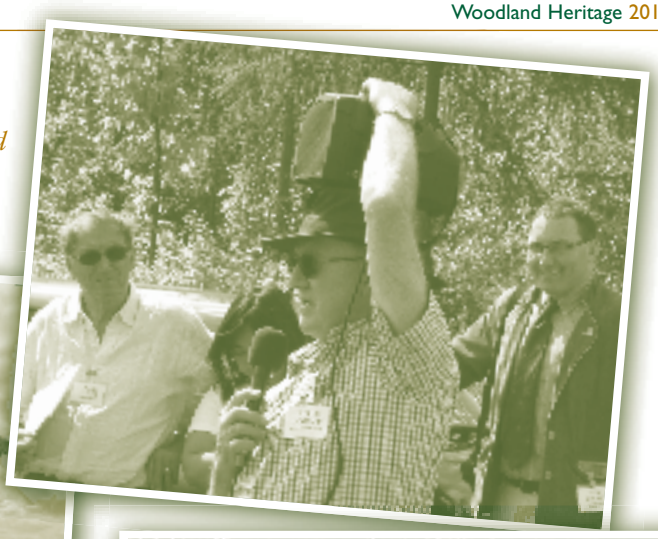
David Rose (Forest Research).

Ed Clark with forestry students.

John Blunt.

Belinda s

Snapshots



David Taylor (left), Peter Goodwin and Ted Wilson (right). ▶

and Robin Carver.

▲ *Josie Chapman's new headwear for Richard.*

▲ *Tanarus in love again.*

McHardy.

▲ *Geraint Richards and Andrew Woods.*

▲ *Peter Savill.*

signing in.

▲ *Robin Neilson.*

▲ *One of the Catton Estate trailers setting off.*

Letters to the Editor...

Herefordshire

Dear Lewis

I am interested in and support the long term aims of WH to improve the quantity and quality of timber grown and used in this country.

I am also interested in the short term support and encouragement for our timber growers and processors, of which I am one whilst also being an end user, and am concerned about the continued high volume of imported timber.

Timber is often imported because, 'they' say, timber of the right quality and quantity can not be found in Britain. To am extent they are right and that was the impetus for the creation of Woodland Heritage.

But they are also dramatically wrong because much of the timber sought can be sourced in Britain; it may take a little more effort and research and may even sometimes cost a little more money.

The point remains that unless we support the production and use of British quality timber now the future dreams may well remain just that rather than a reality built upon a growing UK timber market.

I am interested in a debate on this subject and I would like to see more end users committed to an increased use of home grown timber.

Best wishes

Doug Joiner

www.heavyhorses.net

Dear Doug,

I would certainly welcome a debate on more commitment generally to using home grown timber.

To engender and facilitate such debate was precisely the reason we set up *"The Forum"* on our new website *www.woodlandheritage.org.uk*

It is by people actively using the Forum that we hope to create a virtual *"woodland community"*. Further, to help people source home grown timber, we established *"The Marketplace"* on the Forum. This is a free facility to advertise the fact that you are looking for trees, logs, timber (or services), or indeed, that you have them for sale. In this way we seek to encourage *"locally grown and locally used"*, as far as is practicable.

So Doug, let's have the debate and, I look forward to seeing you as a regular user of both "The Forum" and "The Marketplace"

Best wishes,

Lewis

Carmarthenshire

Dear All

The day and a half that I spent in the National Forest was most interesting and I was particularly pleased to visit the Staunton Harold wood adjacent to the A74. This I have seen develop when passing at speed. It appears that the establishment problems of soil conditions etc have been overcome but now the more difficult problems of management, particularly pest control, will need to be tackled for all the recently planted sites.

I was impressed with the Jaguar Walnut Plantation which, as one would expect from Gabriel, had a good scientific background. The examples of success and failure must be helpful to anyone wishing to plant a Walnut crop. The grass leaved vetch 'Lathyrus Nissolia' was new to me and was presumably sown alone with the other vetches.

Battram Wood was a complete contrast where I was left with the impression that the only 'innovative' input was to align the ends of the planting rows to end at a ride edge!!! I was doing this as a FC student fifty years ago. It seems to me that there was a lost opportunity to demonstrate a range of establishment and protection measures and not to be afraid of failure. The layout, apart from the Yew in the millennium circle, lacked imagination, especially width, alignment and edge variation of rides, also herbaceous vegetation cutting regimes. I assume that Lockhart Garratt just carry out management as instructed by RFS.

John McHardy was so very pleased to receive the award and it gave Peg a lot of pleasure too. We made the right decision.

Thanks of course to Peter and Belinda for all the work they put in to the organisation.

I am much in favour of a Cornish Field Meeting next year.

Regards

David Rice

Letters to the Editor...

Dear Belinda, **Norfolk**

Thank you for your interesting and informative response.

My reaction to the Field Weekend has always been a positive one. The planning and organisation was of the highest standard, beautiful weather, and I for one relished every event (perhaps some more than others). Nevertheless, it has to be recognised that the National Forest has changed the face of what was in the main a drab and pock marked landscape. Enabling this transformation to take place required vision and determination, and we (WH) are privileged to have witnessed a small part of this endeavour. WH has an educational role to fulfill, and if the aesthetic characteristics of the locality were below par or the sense of enterprise seemed to be wanting, members may need some encouragement to view these matters in their true context.

I was particularly impressed by the Walnut trials at Lount Wood, Battram Wood, our ramble at Calke Abbey, and of course the National Memorial Arboretum. I must also include my YHA experience which was a revelation, although sleeping was a trifle difficult.

Finally, I couldn't have wished for better company, and if I had no other reason for attending, this alone would have sufficed. After all, where are you likely to encounter a student of medicine, formerly a talented forestry professional, and a midwifery practitioner turned forestry graduate?

The next venue will be another winner, so brace yourselves for an overwhelming response!

Kind regards,
Chris Sharples

Norfolk

Dear Peter (and all the Trustees)

The Woodland Heritage Variety Pack never ceases to amaze – once again a weekend of endless interest and of kaleidoscopic change.

Until sharing your Landrover leading a cross country convoy, I had not really appreciated the huge complexity of the organisation involved with the putting down of direction flags (and taking them up again), issuing plans and information to 100 people at every stop, thanking (and rewarding) hosts plus getting lost on occasions!

And all this over ten separate sites, five separate hosts, twenty or thirty cars to be parked and convoyed, and even the slipping in, at the last minute, that very attractive Oak wood at Calke Abbey. How do you do it and keep sane?

We were told there are now seven million trees under the age of 12 in the National Forest. No attempt has been made so far to look after these trees, far less to deal with the menace of deer and squirrels when they arrive in due course. One can only hope that the Woodland Heritage visit will kick start some constructive thought in the direction of a future "Forest" rather than one merely of future firewood.

Yours
Robin Carver

Suffolk

Dear Belinda

Thank you for your part in organising yesterday's wonderful field trips. Richard and I really enjoyed the day and learnt many valuable things about trees!

I enclose our name labels which I forgot to return.

Looking forward to hearing from you about other WH events.

Many best wishes
Sarah (Partridge)

Rawnsley Woodland Products, Cornwall

By Tino Rawnsley

Established in 1996 by wood worker Tino Rawnsley, Rawnsley Woodland Products has evolved through several phases; from low impact woodland maintenance to furniture making and over the last 6 years into a small but busy sawmill specialising in timber cladding, shingles and building timbers from locally grown and durable plantation species. Most recently, we have developed a wood fuel production plant to make wood pellet and briquette heating fuels from our waste wood and that of other sawmills in the region.

The changing world and pressing need for sustainability are driving a new attitude towards resource management and the materials we use. There is renewed focus on forests and their products and demand for timber for building and for fuel is growing very rapidly.

Our Shingles from the Duchy Woodlands on the WWF building in Zeist Holland.

The world's old growth forests have now been mined to a shadow of their former majesty and, despite regulation, continue to be destroyed at a horrific pace. In the UK we have no old growth forest left to exploit. What we do have is plantation forestry that provides a conveniently harvestable material for general or low grade use, such as paper pulp or fence posts. Sadly, it comprises largely species incompatible with current or maybe even future needs. Fast grown fibres are no longer in demand for a paper industry mainly based abroad and geared to utilise 'post consumer waste'. Similarly, species of low durability require the application of toxic chemicals to stop them from rotting. Such monoculture forestry is prone to disease and the shocks of nature – and harbours limited wildlife.

However, we have also been lucky enough to have had some wise and visionary land owners and silviculturists who have planted for a different type of future, one not driven only by short term demand.

Species such as Larch, Western Red Cedar, Douglas Fir, Sweet Chestnut and even the Great Coast Redwood have wonderful qualities of natural durability and stability. At RWP these species have become our 'staple' and with architects and planners beginning to more widely embrace sustainability and low carbon agendas, these materials offer a truly 'green', low carbon and locally sourced option.

We are now supplying materials for projects large and small; from the humble garden shed or home office, to new builds and renovations to homes, schools, hospitals apartment blocks, office blocks, even a supermarket – all of which have made a clear and conscious decision to go for home grown timber for the clear benefits it holds.

From where we are we see a big change, the groundswell is building and the new wave of eco architecture has taken up the green challenge. This is great news, not only for local suppliers such as us, but for UK forestry in general. It is incumbent on us all now to ensure that we create the infrastructure that allows us to respond to this demand with confidence.

There has never been a more crucial time to plant woodlands and replenish the forest resource; but not with the same old monocultures. New diseases pose serious threats so better systems must be introduced. Mixed species woodland, multipurpose and uneven aged has proved more resilient; selective small coup harvesting; species selected for strength or durability planted with an understory coppiced for fuel. There are more successful models across the world.

In the UK where 90% of building timber is imported, we have found that promotion and support for using UK grown timber is poor; very little has been done to counter negative propaganda from the big timber importers or to trumpet the positive qualities of home grown materials. Apocryphal stories of poor durability were proved unfounded when we asked Dr Richard Murphy of Imperial college to complete some research he had started into the durability of home grown Western Red Cedar (WRC) using material we were sawing. He confirmed that the control fungi 'didn't even go near the samples' and that home grown WRC would fit happily into the durability classification of 'moderately durable to durable' given to the better understood imported material. But one piece of now rather outdated

research is insufficient against the barrage of promotion by the big importers who bring in faultless material from old growth forests across the world.

There is an urgent need to look closely again at the qualities and uses for home grown species and to promote them to processors, specifiers and users. To this end we have been working with researchers to explore the qualities of UK grown Douglas Fir and Larch.

All timber, even home grown local wood, comes with a 'oil cost' mostly installed by transport fuel use but it has been clearly demonstrated that imported timber rapidly gains 'big black shoes' in this respect while local timber can have 'embedded carbon' of as little as 20kg of fossil fuel per tonne of wood. Imported can have very much more with Western Red Cedar from Canada having as much as 220Kg per tonne.

We keep the carbon footprint of our products low by limiting the transport miles, only cutting wood from our region and also by efficient processing, we run two highly efficient narrow blade band saws. These, as well as the planers and moulders and all other production machinery are powered by a large generator converted to run on WVO (waste Veg oil) from local caterers. Running the mill on this second use 'waste' makes our products amongst the most 'carbon lean'.

Our Slabwood pile ready to be made into briquettes.

Dealing with waste *(above)* was once a problem but we have invested hugely to turn the problem into a benefit. Because of careful selection for each log we cut we end up with a 'recovery' rate of around 50%. Without processing this we would soon be overwhelmed by our own Slab wood, off cuts and sawdust.

From these 'coproducts' we now make high energy densified wood fuels, wood pellet and briquette. Though commonplace on the continent, these fuels are only now beginning to take hold here. Pellets are designed for use on automatically fed systems while briquettes can be used on any solid fuel burning appliance. We have found that their dryness, ease of lighting, high heat output and clean burn soon win them favour even with staunch traditionalist log burners.

We have had perhaps more than our fair share of trials and tribulations in setting up the pellet and briquette plant but we have had amazing financial, moral and business support from a group of brave investors; fantastic grants from SWRDA, *Woodland Heritage* and Working Woodlands; large amounts of freely given advice and the long, long hours of hard work in all weathers by a great team. Perhaps most importantly we have had the loyal support of our customers who have kept the sawmill humming and us all busy throughout.

The pellet mill.

RWP is working to be part of a complete and integrated cycle from planting, management, harvesting, processing and manufacture, and a perennial and sustainable model working with land owners, foresters, and woodland managers to help create and maintain the healthy diverse working forests of the future and make the useful products we all need, with the minimum possible carbon footprint.

Times have changed, people can plant trees and with respect, learn to emulate and work with nature rather than dominate it. Industry must change and shift its focus from irresponsible extraction to clean production and integrated resource replenishment. In rural areas there will always be the need for the work that forests provide. Reinstalling value into woodlands as places to provide employment and needful materials comes from recognising their rightful place as a long term growing resource, a natural 'bank' not just of monetary value, but of biodiversity, which in truth are the real riches.

To survive, all beings need clean air and water, a healthy environment, and humans need shelter and a fire in the hearth. We get these things from trees, so fostering the resource, working to establish and maintain high quality multipurpose forestry and woodlands, can provide for our needs and those of the rest of the biotic community. The future in perpetuity is the highest aim.

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Typically Tropical

by Ken Hume

The impression that most people in the UK have about the Caribbean and its heritage is that it was built on the back of slavery and for the most part these impressions are formed second hand without ever having gained any real experience of this region. It is therefore an interesting region in which to undertake a major building restoration project and especially when this concerns the repair to full working order of a sugar cane crushing windmill on the island of Barbados.

The black inhabitants of this island might justifiably have mixed feelings about being reminded about the days of slavery and as such some might even consider it better just to let these landmark buildings fall back into the landscape however to deny this built heritage might be almost be as bad as to deny the crimes committed to create it!

The Morgan Lewis Windmill

This windmill is owned by The Barbados National Trust and stands at the top of a hill in the St. James area of Barbados, overlooking the Atlantic Ocean. It is surrounded by sugar cane fields close by to an area called Scotland

This was the last working wind powered sugar mill remaining on Barbados from a previous total of 500 or so such mills that once worked on the island. In 1996 this mill was included on the World Heritage list of the 100 most endangered buildings in the world. Subsequently, the mill was repaired and restored to full working order by millwright David Nicholls of the Chilterns Partnership, near Reading, Berkshire.

Unfortunately in late 2008 David's handiwork was undone when the windmill was struck by lightning during a tropical storm. This resulted in severe damage being done to the windmill arms which for reasons of public safety were removed and a project then instigated to repair the damage and restore the mill to full working order. This windmill features on the back of the Barbados 25 cent coin and so is an important tourist landmark in Barbados.

The Survey

In June 2009, The Trustees of The Barbados National Trust invited millwright David Nicholls (now retired) to make a return visit to Barbados accompanied by Ken Hume – Chartered Engineer and Master of Timber Building Conservation who teamed up to survey the windmill and devise a plan to restore it to full working order.

The Barbados National Trusts

At the end of their visit Hume (straw hat) and Nicholls (beanie hat) appraised the Trustees of the Barbados National Trust of their findings and recommendations in order to obtain outline agreement and approval of their proposed repair and restoration plans.

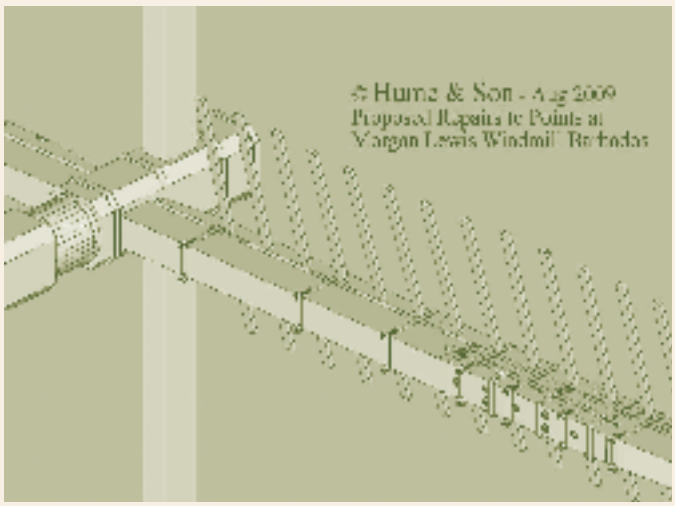
Scotland

On return to the UK, David and Ken then headed off to Balloch, Scotland to inspect greenheart timbers imported into the UK from Guyana by Gilmour & Aitkin a firm specialising in this trade since the early 1900s. The 68 foot long continuous timbers needed to make new arms can no longer be obtained from Guyana because of logging restrictions and internal political problems in Guyana. The world trade in timber now dictates that everything be moved inside 40 foot long sea containers.

Ken now had a problem – how to design new multi piece arms capable of withstanding a Caribbean hurricane and tropical storms!

Back Home in Hampshire

Ken set to work on his computer producing calculations and a 3D computer model of the windmill from which detail drawings of the windmill and repair method could be derived and issued to IJP Building Conservation – a Henley on Thames firm that specialises in millwrighting.



At The Millwrights Yard

Paul Sellwood is the millwright who will be responsible for turning David and Ken's proposed design scheme into reality, cutting and shaping joints in the massive greenheart timbers ready for shipping to Barbados. Work must also be done by the company blacksmith to make new large wrought iron hoops and bolts to hold the arms together.

On Site in Barbados

The IJP team will mobilise in Barbados in 2010 to unload a sea container, assemble the giant arms then set to work cutting out the lightning damaged sections of the large wooden sails, repairing them ready for re-attaching back to the arms.

The finished sails and arm assembly will be 84 ft in diameter and this will be mounted onto the mill cap which sits on top of a 40 ft high coral stone tower. Nerves of steel are required by the millwright who has to ascend the arms suspended in a harness from a crane to fit and secure the wrought iron hoops that will keep the finished assembly locked together.

Please feel free to contact me for further project progress details.

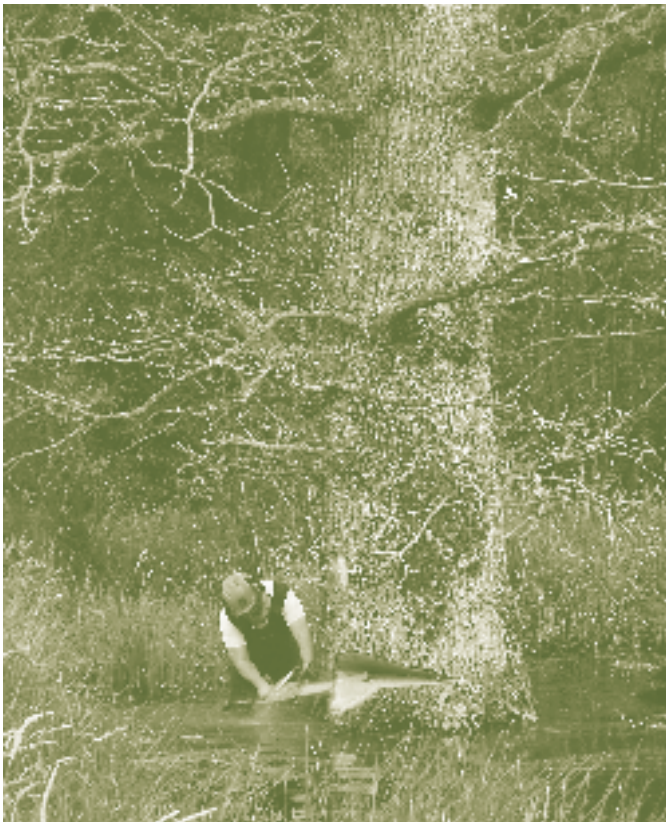
Ken Hume
Member Woodland Heritage

Swamp Oak of the Deep South

(South Wales that is!!)

by Arwyn Morgan

For some time this particular area of Oak woodland has suffered from poor drainage. The access nearby was regularly flooded, so the land owners in their wisdom instead of cleaning out some ditches and improving the drainage, took the more expensive option of raising the road level by about 4ft. The raised road then in effect formed a dam to hold back all the water, which drained into the Oak woodlands from surrounding fields. Whereas in the past, although considerable water entered the wood, it generally dried out quite fast, yet this is no longer the case. Now bulrushes have started to grow in the wood, and wild duck breed there. About 12 years ago some 20 trees were taken out as the waterlogged condition was having a severe effect on them. In the meantime a new batch of trees had died.



Cutting a secondary face to aid exact felling direction, and to twist the stem as she falls.

The trees concerned were of mixed quality, but due to the soil and certain characteristics, I was fairly certain that they would be sound inside. Volumes ranged from about 30 cube to 300 cube hoppus. Some of the larger trees were up to 4ft butt diameter, with good clean cutting first lengths, traditional good quality estate grown timber, but as usual there were problems to overcome.

In certain areas the water was over 4ft deep, as the monsoon season had started early in Wales last summer. Despite regular visits to check on the water levels, due to the heavy rains, the water level did not recede. Eventually by late October the level did recede by about a foot. As can be imagined it would be a fun site to work. We were to fell only trees which were fully dead. All live, storm damaged or even half live trees were to be retained.

What should we write on the Risk Assessment? *'Cutter needs to wear snorkel at all times'*. Basically many of the trees could be safely got at as the water around them ranged from ankle depth to crotch level. A sure sign of water depth was to observe the swamp grass, generally it would grow in water which was up to crotch level, and thus any areas of water with no swamp grass were to be avoided as these areas were quite deep.

Just prior to starting here we had been working on a site taking out some Oak and Ash, and there was an instructor on site, training some pupils in the neighbouring plantation, so that they could become fully qualified chainsaw operators(?). Some trainers have limited access to large trees as they rarely cut any themselves. Therefore sometimes they are on the lookout for such trees, especially when they have students who want to progress to the large tree module. In my naivety I asked if he was looking for large trees to fell with his students. My thinking has always been: learn how to do a job under difficult circumstances and it helps you to become more proficient. He asked as to their situation, and said bluntly that they were too hard for his students, and he only wanted easy trees, so that his life was easier. He would get the students through their test anyway. Enough said!

Tree fallen and twisted as directed, with no tearout of the butt.

Despite waiting for the water to recede, it didn't go down quite as much as I hoped, so we started in late October to fell those trees in the shallows. We carried on until the water was up to crotch level. It was at this point whilst retreating as a back cut was opening up, that my saw was drowned. Fortunately it hadn't swallowed too much water, and after removing the spark plug and air filter, swishing about some petrol and leaving it upside down to drain and dry out, I was able to start it up. But I'd had enough, and I wasn't going to cut any more under such conditions.

In early January when everybody was moaning about the cold spell, we couldn't get up onto the nearby steep banks that we had been working on due to the ice. It turned out that somebody up high above must have been smiling on me, as the water around the last remaining five trees was frozen solid. ***I don't know of any Lantra or NPC module or certificate which covers working on ice. I was therefore at a disadvantage, in that I could only draw on my experience of skating on ponds as a child, and of course any tips that I could get from 'Ice Road Truckers'. As this was fairly new territory, no doubt it would be highly educational.*** I wore logging boots with new studs fitted, as they would hopefully help with grip whilst walking up the stems. I didn't know how the ice would react and break, therefore the back cuts were bored behind the hinge and cut backwards until a little bit remained holding the tree in place. Then, standing as far back as possible from the tree, I would cut this section at arms length and trip the tree over. Of course once the back cuts opened it was a quick retreat.

Surprisingly with all the remaining five trees, the ice behind them remained sound, whilst that in front was smashed to pieces. ***In my experience of cutting trees close to waterways, there always seems to be a fine grit present on their lower bark, generally deposited as sediment, this then tends to have a detrimental effect on the chain cutters.*** So when I was felling these trees, I didn't use the large saw, instead I used the Husky 372 with a 24in bar. It is a much lighter saw – why put more weight than necessary on the ice? Likewise although I could see how the ice reacted to the individual trees that were felled, we had no idea as to how the whole area of ice would react between trees. Some thought was needed as to the order for the trees to be felled. None of the trees were to be rounded out; it was just a case of getting them down as fast as possible, minimising travel over the ice and ensuring safety.

All trees were to be felled according to their natural lean, no fancy directional felling. Thus I was able to fell with just the saw, no need for a sledge and wedge.

All the trees dropped as planned without tearout or

The first three trees felled.

felling shake, that is until the last one, by which time the grit was beginning to take effect on the cutters, and the morning sun was beginning to heat up. As I didn't want to walk unnecessarily over the ice, and I could hear the occasional effect of the sun's rays, speed was of the essence. As this tree contained over 300ft hoppus, it was noticeable how the saw's exhaust, which was directed against the ice, was causing localised melting. Although the tree felled cleanly, due to the poor state of the cutters, the stump was somewhat ugly. (No doubt somebody will come across the stump in years to come, and state that some cowboy felled the tree!)

We had waited some time for the ice to thicken, eventually it was about 8in thick, but after it had been broken up, the weather warmed up and once again the wood was fully flooded. We decided to leave it until the warmer weather, when either the water would recede or at least it wouldn't be so cold!

After some time I received a call from the farm manager, wanting to know whether I could get on with the timber extraction, as he was fed up. It seems that everybody and their dog had been knocking on his door asking what was happening to the Oak trees, as their crowns could all be seen above the floodwaters. So we went to have a look at the downed Oak, and nearby was a swan eyeing us up. He was quite a handsome chap. Giving it no further thought we went to see how high the water level was. To our surprise, amongst the crown of one of

the trees and its surrounding water was a large pile of carefully placed reeds and grass, on top of which was Mrs Swan carefully sitting on a clutch of eggs.

Immediately the brakes were on the project, as firstly I'm not into breaking happy homes. Secondly swans can be rather nasty, and although I've kept geese, I had no intentions of tangling with Mr and Mrs Swan. Thirdly, swans are similar to sturgeon, in that they are owned by Her Majesty the Queen, and I didn't fancy spending a spell in the Tower.

The water level was still high, but in actual fact the swans had proved to be a blessing. I wanted the water levels to recede, and the farm manager wanted an answer to annoying busybodies. So the trees would be left as they were until the eggs had hatched, and the young cygnets were of an age when the timber extractions would be of no consequence. I am happy to announce that Mr and Mrs Swan are now the proud parents of five rather busy cygnets.

By the end of July the water level had gone down by at least two feet, which was much more than last year. There had been a hot spell from June to July, so we moved the skidder to the site on a Friday to start on the Monday. During the weekend we had torrential rain and thunderstorms, and by the Monday morning the water level was as high as it had ever been. "Oh bother!" Water or no water, the Oak was going to come out – patience was wearing thin. A quick look over eBay, and I ordered a set of neoprene chest waders.

When we started extracting, things went fine; the first tree measured some 100ft hoppus in total. Only the butt and two main limbs were extracted. Basically all the trees were going to follow a similar pattern, all cordwood would be left where it lay, mostly underwater, and big limbs were extracted only when they could be pulled out with the butts or large second lengths. To go to the effort of extracting large limbs was generally not viable, due to the difficulties involved.

Just completed ripping/splitting in half with a chainsaw.

As already mentioned there was quite some water to navigate. Prior to the woodland being flooded it was grazed by cattle, and had been divided by barbed wire fences. That very wire zigzagged underwater ready to trip somebody up. Likewise there were stumps situated underwater ready to trip you up or foul the winch line and logs whilst being extracted. But at least the water wasn't as cold as when I first started felling some of the trees. Unfortunately with heat you get mosquitoes, and they lived here in their thousands. A sure-fire deterrent is to put some Geranium oil on your clothes, as it smells, as one person so clearly put it years ago, of rotten sweet potato.

So here we were having just extracted the first tree, moving on to tree no. 2, which was over 300ft hoppus in two pieces, the first 18ft being a prime planking butt, with the 2nd piece a combination of planking and beam. I was beginning to feel smug and happy with myself, both of which are sure danger signals. I had extracted the first tree, the sun was shining, the birds were singing, I was dry in my waders. I was smelling of rotten sweet potato, and in the distance I could hear 'Guns n Roses' blaring in the cattle sheds. It's funny how cattle enjoy rock music.

But things quickly turned for the worst. Due to the hidden stumps we couldn't pull the timber out directly, and the only anchor points were some seriously "iffy" Willow trees. So I needed to take the snatch block to the Willow trees. As the snatch block is quite a sizable piece of metal, you need to ensure a safe footing, and as is to be expected, halfway towards the Willows, a small branch underwater 'decided' to trip me up, with a resulting belly flop into 3ft of water. Funny how thoughts of E.coli sprang to mind as I descended into the murky water, especially considering all the swan and duck muck plastered on any dry surface. Taking a bath generally cleans you, and this was surely the case where the water had washed off all the geranium oil. The net result was that a few hundred mosquitoes descended on me, and in their affection gave me many love bites all over my arms.

Eventually that log was extracted but only after breaking several sets of chokers, resetting the snatch block several times and trimming existing stumps to assist timber to slide over them. After this the extraction continued at a steady pace although in certain areas we could only winch from a tarmacadam road (not to be damaged!) which didn't have any verge capable of holding spraggs.

Since last year a few more trees have died. These were dealt with, and no doubt more trees will die there in the future, when it will be time to do some more swamp logging.

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Windsor Chairmaking

by James Mursell

This book is the first new one about the making and design of Windsor chairs for over ten years. It has been written with a broad readership in mind. It is aimed both at existing Windsor chairmakers and also at those who are perhaps contemplating making their first chair.

Detailed plans are included for two English and two American chairs. It is also aimed at those who are interested in both English and American Windsor chairs – dealing with them together throughout the book for the first time.

Those who wish to make chairs in the same way that they were made in the 18th century will find chapter seven particularly interesting, as it discusses the lessons to be learned from the toolmarks left by an English maker on a chair dating from around 1750. Finally chapter eight covers design and looks at the subtle messages that can be sent out by a chair which can be interpreted in the same way as human body language.

The book has 192 pages and is filled with colour photographs and line drawings throughout.

Biographical details: James Mursell

James graduated from Cambridge with a degree in botany and having obtained an MBA, worked in industry for a number of years including two years in New York. He then took over a family fruit growing business and ran it for fifteen years before closing that down to concentrate full time on Windsor chairmaking.

He has been making chairs professionally since 2001. In 2004 he was asked by West Dean College to take over Windsor chairmaking courses from the late Jack Hill and he now teaches there two to three times a year. Enjoying the teaching so much, he converted a barn on his farm into a dedicated teaching workshop which can accommodate up to six students. He runs 15 to 20 classes per year. His students come from as far as New Zealand and Australia, and range in age from 20 to 85.

Being unable to purchase the tools that he needed for his craft, he has developed a range of spokeshaves and travishers which he makes and sells to chairmakers and other woodworkers around the world.

When he is not teaching and making tools he makes chairs to commission using locally sourced English hardwoods from the nearby Cowdray Estate. His passion is for early English and American Windsor chairs which were made by individual craftsmen and which show the true elegance that is possible in these chairs.

James is a member of Woodland Heritage and the Sussex Guild. He exhibits and demonstrates in Sussex and around the country.

Signed copies are available for £19.95 (plus £2.75 p&p) direct from the author:
James Mursell,
The Windsor Workshop
01798 915 925
james@thewindsorworkshop.co.uk
www.thewindsorworkshop.co.uk

Dumfries

Dear Peter and Lewis

Afraid I've been very slow in writing to thank you all for working so hard to provide us with yet another splendid weekend of warm companionship, valuable and instructive interest, great fun and a topping annual magazine. Alan and I are left in wonder as to how you manage to find the energy to undertake such onerous tasks and still hold down full time jobs.

Peter must share some of the blame for the delay in writing to you; he drums home so resolutely the message to wield with vigour that high pruning saw to cut off the branches up to at least 2" diameter – we've been at it ever since the Field Weekend without a break. Must say though, looking back at the results is very satisfying, even although the view is partly impaired by the somewhat misty vision brought on by the double hernia incurred through using that confounded high pruning saw!

I thought that some of the National Forest participants we visited conveyed quite a contrast in approach to their woodlands to that of some of our hosts in previous years. I appreciated the frankness of both Robin Neilson of Catton Hall and John Blunt of Staunton Harold Hall in their high emphasis on financial profitability in association with their participation in the National Forest scheme. This appeared to be significantly different to the approach of former hosts such as Major Davenport, Foxley Estate, the Fawkes family of Farnley Hall, Major Wills of Miserden, John Workman of Ebsworth, Powis Castle and Mr Trevor Trevor of Trawscoed Hall, who all emphasised securing responsive markets for their products to provide financial viability.

I thought we saw a different approach in our visits to the Duke of Buccleuch's estate at Bowhill and Lord Douglas Home's estate at The Hirsel, where it was evident that catering for paid public access to the estates and their woodlands was an integral part of the overall woodland management.

I know from previous exchanges of views that Woodland Heritage has declined to become involved in any political discussions of alternative approaches to forestry. But it does seem to me that we have seen at least three different ways of promoting our woodlands each with financial and economic models. It would be interesting to posit which, if any, is more likely to give us the "Sustained Yield Management" which our venerable mentors drummed into our young heads!

Again, Alan and I warmly thank you for your sterling work and also wish to convey our thanks to all the Trustees for their efforts in keeping the pot of Woodland Heritage bubbling away on the hob of the jolly old woodstove.

With very best wishes
Sydney Draper
P.S. Thank you for the Bubbly. I've just finished the bottle. Hence the letter!

Suffolk

Dear Lewis

I write in reply to your very kind missive of the 4th inst. Yes, I would be pleased and proud to be heralded as an honorary member of Woodland Heritage, especially after all these years. It is a very kind gesture indeed and I will look forward to receiving the magazines and newsletter as hitherto.

Peter Goodwin who initially got me involved, has left a very kind message on my answerphone. It brought tears to my eyes!!

I close in wishing Woodland Heritage every success for the future.

Yours aye
John Goudy

Cumbria

Dear Lewis

Eilidh and I wish to thank you for your kind invitation to the WH Field Weekend this year. Unfortunately her rota is such that we cannot attend on this occasion. Our wedding and honeymoon were simply wonderful – we went to Italy and saw (somewhat to Eilidh's mixed pleasure) lots of wonderful mixed age forestry! (We also enjoyed lots of very good Italian food).

I trust your preparations are now fully progressed and that you haven't been forced into too many last minute changes.

Best Wishes,
Jon & Eilidh McCosh

Surrey

Dear Peter (S),

I have just has a call from one of our members, Tom Cook in Norfolk, who has asked for some advice.

He wishes to regenerate Douglas Fir and Scots Pine and would like to know when the prime time would be to deal with seed fall to cultivate regeneration of these species.

Can you please help?

Belinda

Oxford

Dear Belinda,

Douglas Fir normally releases mature seeds from its cones between September and March, and Scots Pine between December and March. If you are going to do any preliminary cultivation to create a good seedbed, it should be done before seedfall begins, and then again lightly to cover up the fallen seed to minimise losses from birds and mice before they germinate. Possibly cultivations in October and again in mid to late February would be suitable.

Before any cultivation is done, it would be necessary to be certain that the year in question will be a good seed year as both species are somewhat periodic in their production, with really good seed years at three to five yearly intervals in the case of Douglas Fir. It would also be necessary to be sure that enough light (but not too much) reaches the woodland floor otherwise the seedlings will not survive. If there is too much they will become swamped by grass growth and other weeds.

The only person I know who has done any work on this topic in the south of England is Gary Kerr of Forest Research. He is based at Alice Holt (gary.kerr@forestry.gsi.gov.uk). There is also a great deal of very good experience at promoting Scots Pine regeneration at Thetford forest in Norfolk, and a visit there would probably be well worth while. Their experience is almost exclusively on the sandy, rather infertile Breckland soils where regeneration is quite easy to promote and manage, but if ***Tom Cook's*** soils are much more fertile, it might be much more difficult.

I hope this helps.

Best wishes,

Peter Savill

Georgia

Dear Peter and Lewis

I have just received the WH Magazine, thanks a lot! A very interesting issue and much interesting news.

Recently I have been involved in very interesting activities at work. Specifically, we have started a forest restoration programme (supported by the German Government) with several project sites in Georgia, Armenia and Azerbaijan. The project is implemented within the framework of mitigation and adaptation to the climate change and involves restoration of degraded forest landscapes in floodplain and mountain areas. Only native species will be used for restoration. For instance, in Georgia these species are Floodplain Oak (Quercus pedunculiflora), Hornbeam (Carpinus caucasica), Ash (Fraxinus excelsior), Maple (Acer campestre) etc in floodplain areas (around 200 meters asl) and Georgian Oak (Quercus iberica), Beech (Fagus orientalis) and Chestnut (Castanea sativa) in mountain areas (around 700 meters asl).

A major problem is a shortage of seedlings (due to the very limited number and capacity of nurseries), especially in Georgia. Therefore, we will focus on seeding (especially Oak) and collecting seedlings (wildlings is the right word?) from the surrounding forests.

I will inform you about the developments in this programme, which will be finished by spring 2010 (it mainly involves planting – the issue of aftercare has to be addressed separately).

Very best regards

Ilia Osepashvili

Senior Forest Officer, WWF Caucasus Programme

Georgia

Kent

Dear Peter

Eighty-four pages of Woodland Heritage and what damned good pages and what an achievement in so short a time. They have given me much pleasure during the last fifteen months when poor Ruth has been putting up with a great deal, and I've been unable to go at will, even into my own woods.

Arwyn Morgan has, in my opinion, been particularly good. I enjoy having a bit of home-grown Redwood in Tommy's Wood and would still be delighted to see you or your co-founder, if either of you get anywhere near before long.

Yours ever

Patrick Hills

Understanding Daylight in the context of Continuous Cover Forestry

Westonbirt Arboretum, Gloucestershire

The first Scientific Meeting organised by the Continuous Cover Forestry Group (CCFG) was held in September 2009 at Westonbirt Arboretum, Gloucestershire.

Rodney Helliwell, a founder member of both Pro Silva and the Continuous Cover Forestry Group, clearly set out the issues followed by illuminating presentations by leading scientists in the fields of crop ecology, plant science, remote sensing and environmental monitoring; Paul Burgess, Maurizio Mencuccini and Mathias Disney.

Dr Matthias Disney, Andy Poore, Dr Maurizio Mencuccini, Dr Paul Burgess and Rodney Helliwell at the summing up session in the Great Oak Hall.

The afternoon sessions consisted of field demonstrations with the use of equipment generously provided by Skye Instruments and Delta-T Services showing how light varied under the canopy of individual trees and woodland cover; and with passing clouds!

This was followed by discussion and an exploration of the need for further research led by two leading practitioners, Andy Poore and Graham Gill.

Belinda Trotter of Skye Instruments demonstrates variation in light intensity assisted by Graham Gill.

Phil Morgan, CCFG Chairman, summed up the meeting: ***"Continuous cover practitioners need confidence in practicing CCF in Britain, so a clear understanding of the role of light in tree growth is needed to provide them with a solid foundation to manage a valuable forest resource."***

Woodland Heritage is proud to have been invited to sponsor this important event and continue the close link that we have with the CCFG.

For full details and transcripts of the Conference please visit the Resources page at www.ccfg.org.uk or contact Gill Pemberton administrator@ccfg.org.uk

White Fir, Sierra Nevada. Figure from Jupp et al. (2009) Estimating forest Leaf Area Index profiles and structural parameters using a ground-based laser called Echidna, Tree Physiology 29(2) 171-181 (as shown in Mathias Disney's talk).

Continuous Cover Forestry Group

Another Woodland Heritage Garthwaite Travel Bursary

1st European Chestnut Congress

Karen Russell

Introduction

Cuneo is an ancient city and province located in the Piedmont region of north west Italy, close to the borders of France and Switzerland. The area is characterised by hilly and mountainous areas of up to 1200m asl. Historically, economically and culturally Chestnut (Castanea sativa) is an important species. Today it is one of the most important areas in Italy for the commercial production of Chestnut fruit and timber with trees being grown throughout the alpine valleys and covering over 14% of the land area.

The event coincided with the 11th National Fair on Chestnut with hundreds of growers and exhibitors bring a multitude of Chestnut products from across the region. Thus, it was a very appropriate venue for the 1st European Chestnut Congress entitled: *"Castanea 2009: Food, Timber, Biomass and Energy in Europe"*.

The congress

This was very much an international meeting with over 400 participants attending from 27 countries from four continents demonstrating the importance of Chestnut across the temperate world. I was the sole representative from the UK. The participants included scientists, growers, processors, consultants, other professionals and students. The meeting started with three days of scientific sessions followed by a day of technical tours to see Chestnut growing, harvesting and processing.

The scientific sessions were run concurrently and covered ***history, landscape and ecology, biology and genetic resources,*** Chestnut culture, pests and diseases, harvest, post harvest, quality and processing, ***economics and marketing, biomass and energy*** with some 300 presentations being made. I attended the fore mentioned sessions in bold, but unfortunately not the fruit aspects. Whilst it is only possible to report briefly here on key points of interest from some of the presentations I attended, I do have the book of abstracts outlining each of the presentation for reference.

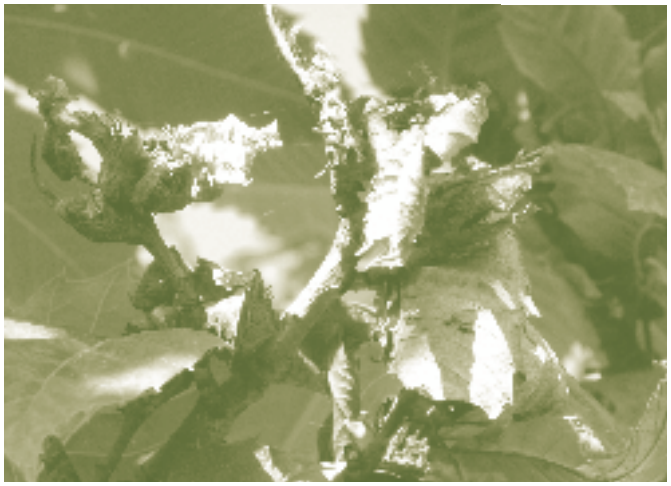
History, landscape and ecology

- Veteran trees were used as bio-indicators to show the spatial distribution of past local communities in the Swiss Alps and to link past anthropogenic presence and activities with settlements today.
- Chestnut provides more calories per acre in mountainous regions than wheat or rye crops.
- Chestnut was grown with Black Alder to improve soil fertility and create pastures between 400m and 1120m asl
- Levels of biodiversity (insect, bats and birds) increased in managed woodland and orchards compared to unmanaged areas.
- Beech, Oak, Hornbeam, Hawthorn and Hazel were the main species found in association with Chestnut.

Chestnuts in the burr.

Chestnut harvester.

Another Woodland Heritage



Old Chestnut leaf galls caused by the gall wasp Dryocosmus kuriphilus

- A study in Switzerland looking at the causes of uprooting in stools, found the main cause to be the imbalance of aerial and underground biomass rather than slope, ground profile and stand height. Stools of 40 to 50 years of age were at greatest risk. Reducing density, increasing diversity of forest structure and progressive rejuvenation were suggested management techniques.

Biology and genetics resources

- Five Chestnut gene pools have been identified in Europe with Turkey found to be the likely centre of origin.
- High levels of phenotypic and genetic variation were found for adaptive traits such as budburst, budset and water stress responses, indicating Chestnut's ability to adapt to climate change is strong.
- A new technique of micro-grafting of 3-4 week old seedlings has been developed in Spain to enable the propagation of mature Chestnut and Oak.

Economics and marketing

- Typical product split for Chestnut timber in Italy is 56% chip, 20% firewood, 15% poles and 9% timber. Disease problems have significantly reduced quality.
- 91% of Chestnut woodland in Piedmont is privately owned and the majority (89%) actively managed. Demand of high quality timber of larger diameter remains strong.
- The mechanical strength of Chestnut timber decreased in timber over 31-35 years and over 35cms diameter at breast height, whilst the incidence to ring shake increased.
- Chestnut coppice was found to be the most efficient management system (compared with high forest and orchard systems) in Spain for sequestering carbon, with soil sequestration rates (430 tonnes/ha/yr) being similar to rates in tropical forest. With a carbon price of 17 Euros per tonne, it was proposed that Chestnut coppice was an attractive land use option.

Reduced canopy cover and growth in an orchard tree affected by the gall wasp Dryocosmus kuriphilus.

- Coppice production in England was acknowledged as potentially the most productive in Europe.

Biomass & Energy

- Single stem tree systems reduced workload by 35% to 40% for the first intervention and increased stem diameter, but were more prone to deer and other damage.
- Coppice systems provided improved non-productive wood functions such as interception of light and water, soil conservation than single stem trees.
- Chestnut was viewed as an ideal clean fuel and tannin free Chestnut pellets have been developed in Italy by Silvateam. Currently producing 170,000 tonnes per annum.
- Harvesting assessments showed that chipping whole trees was economically preferable when the diameter at breast height is less than 12cms whilst at greater diameters a combination of poles and wood chip proved more profitable.

Pests and diseases

- A new insect pest from Asia, the Chestnut gall wasp ***(Dryocosmus kuriphilus)*** is spreading through mainland Europe causing significant damage to fruit crops as a result of distortion of leaf and flower buds into galls. The impact on timber trees and woodland is not yet known. Biological control methods are being developed.

An old Chestnut orchard in Susa Valley.

- Integrated management control techniques for Ink disease *(Phytophthora spp)*, one of the main diseases of Chestnut, have been successful in reducing the incidence of the disease in Italy when combined with raising growers awareness of the disease.

It was interesting to see that from an international perceptive, the strength of developing Chestnut industries in China (2 million hectares planted), Brazil, USA and Australia is focussed on fruit production rather than timber.

The technical field tour

We travelled by bus from Cuneo arriving early at an agrotourism farm, Tetto Garrone, in Busca which combines fruit production, with Bed & Breakfast and the renovation of historic farm buildings. Here in heavy frost, we had the chance to see modern, intensive orchards of Chestnut, Hazel and Walnut. The main Chestnut cultivars were Bouche de Betizac, Marsol, Maraval and Marigoule, all planted at 8m x 8m spacing, irrigated and mechanically harvested.

We moved on to see a noisy demonstration of self-propelled and towed Monchiero harvesters at the Olivera farm before having an excellent lunch with the Chestnut Growers Association in Val Pellice. Not surprisingly, Chestnuts featured in every course! The grower association of 50 producers has led to some 10,000 old trees being brought back into production, maintaining the historic landscape and developing a 'paths of biodiversity' network linking farms with old varieties to local communities and the tourism markets.

The field tour ended high up in the Susa Valley where the Alps could be seen in the distance. Here we saw a demonstration of crown reduction in veteran orchard trees with about 25% of the crown being reduced and the cuts painted. These trees were originally part of a forest, but over time the local landscape has become a combination of wood pastures and orchards with forest occurring on higher ground. Today, they still make a valuable contribution to the local economy both as a tourist attraction and through the sale of Chestnut produce. We had the chance to sample fresh roasted Chestnuts and a range of local products.

It was notable throughout the field tours that Chestnut blight, which is a serious disease of Chestnut, was widespread. It was reassuring to see that a lot of effort was going into its continued control. Let's hope it stays that way as its introduction here would be devastating, especially in SE England.

Acknowledgements

I am grateful for the kind support from East Malling Trust of Horticultural Research, Lockhart Garratt Ltd and Woodland Heritage which allowed my attendance at the 1st European Chestnut Congress in Cuneo, Italy in October last year. Not only did it provide me with a great opportunity to further my professional interest and knowledge of Chestnut, but it was also an excellent chance to gather information on behalf of the British & Irish Hardwoods Improvement Programme's Sweet Chestnut Group, to meet old research partners and establish valuable new contacts. Further information on the Congress can be found at *www.arboree.unito.it/castanea2009*

New Chestnut book

A new book 'Following Chestnut Footprints' was also launched at the congress meeting. It is well illustrated and describes the cultivation, culture, folklore, history, traditions and uses of Chestnut in 27 countries around the world including Argentina, Australia, Brazil, China, Japan and the United States as well as many European countries. The chapter by Karen Russell provides an overview of Chestnut in the UK. The full reference is: Following Chestnut Footprints *(Castanea spp)*. Cultivation and Culture, Folklore and History, Traditions and Uses. 2009. Ed. D. Avanzato. ISHS, *Scripta Horticulturae* No. 9. pp175. **ISBN 978-90-6605-632-9.**

Never say die – joy after the fire

Finished – The Stephen Owen Studio as been rebuilt after a fire destroyed the first building in April 2008 at Cranleigh School in Surrey.

A Chestnut pole frame, clad with Douglas Fir produced a two hundred square metre building that is to double as a woodwork teaching space and Stephen's studio where he makes one-off pieces of furniture.

Following the fire which was a real setback as the original building was just all but finished, the hunt was on again for more trees. In the event the timber was sourced from very local woods. With Chestnut from Hascombe and Petworth, four and fourteen miles respectively, and the Douglas Fir from nearby Winterfold, it was really exciting to see local materials being used in this way.

From the outset I wanted to demonstrate how simple it can be to use local materials in this way.

The building is heated with wood pellets, again locally produced. However with such good recycled paper insulation, eight inch thick cavity walls, floor and ceiling, the boiler was not turned on until one week before Christmas.

As this building is a good example of the use of renewable materials in construction, the pellet manufacturers are to hold a conference there to demonstrate the system in use.

Having built this project twice and seen the reaction of visitors at different stages, it is great to see the reactions of visitors now it is finished.

The following quotes already left in the visitors book show that the building is already making its mark as an exemplar in this field.

'Anyone that spends even a small amount of time in the building will always remember the experience'...**a school parent.**

'Very pleasing to see the continuing tradition of hand-hewn timber building'...**timber frame architectural consultant.**

'Your attention to detail is amazing. The building almost speaks aloud of the thought, time and energy spent upon it'…**timber frame designer**

The school authorities were marvellous after the fire and their insurers, Zurich, could see the uniqueness of the building and supported me in every way. They not only replaced the building but encouraged me to direct more and bring more people in to get the job done. The second building took ten months on site compared to eighteen the first time round.

For more information email Stephen at:
stephen@stephenowen.com

BRITISH & IRISH HARDWOODS IMPROVEMENT PROGRAMME

By Peter Savill, John Fennessy & Michael Carey

Although BIHIP, in common with most other charities, has found 2009 a difficult year for fundraising, there have nevertheless been some remarkable developments that are significant milestones in our evolution.

BIHIP's first breeding seedling orchards were planted in 1993 on four sites with Ash. Based on statistical analyses, decisions were made for three of the orchards as to which trees should be left as the parents for improved seed at the end of 2008. In 2009 the orchards were thinned, with the less well performing trees being removed. The first improved seed will be available in 2010. A second thinning in about three years will lead to further genetic improvements in the seed produced.

Similar progress has been made with Birch, though using a different approach and over a much shorter time scale, at the Forestry Commission's Northern Research Station. The clonal seed orchard there is in a position to produce all the seed likely to be required in the Tayside Region of Scotland.

Stephen Bathgate of Forest Research is in the final stages of developing the BIHIP database of "plus" trees. The identification of these has occupied much of the time and energy of BIHIP workers since formation in 1991. We anticipate that it will be available for use by the end of 2010.

BIHIP – The Irish Dimension

In early 2009 we finally achieved charitable status and again in 2009 we secured the annual grant of €13,000 from COFORD to continue the work in the various species areas which are of importance in the Irish broadleaf forestry programme.

In April 2009 the BIHIP Management Committee held their spring meeting in Kinsealy Research Centre in North Dublin, hosted by Teagasc *(see picture below)*. Other BIHIP species groups, including the Oak Group, also took the opportunity to hold their meeting at this time. Approximately thirty members from Great Britain and Ireland including Northern Ireland attended these meetings. The Head of the Forestry Development Unit, Dr Nuala Ni Fhlatharta welcomed the group to Kinsealy and gave a brief outline of its forestry development and research work.

Participants were given a guided tour of the research station and had an opportunity to see the facilities. They were also shown some of the ongoing BIHIP work during the brief visit. Specific items covered included the new indoor Birch seed orchard, ongoing grafting and other vegetative work and a visit to the propagation laboratories in Kinsealy.

Birch Group:

In late 2008 Elaine O'Connor visited Forest Research at NRS and met Jason Hubert and other members of the Birch group to discuss issues around the establishment of Birch indoor seed orchards and work continued throughout 2009 on the development of the Irish Birch indoor orchards. Elaine also attended the Birch group meeting at NRS in November 2009. Progress is continuing on the BIHIP Irish Birch programme.

Oak Group:

The BIHIP Oak trial/seedling seed orchard at Ballyhea in Co. Cork was regularly monitored throughout 2009. No measurements were taken although a visual assessment suggested that growth was in keeping with other young Oak trials for this year. Grass control was also undertaken where necessary in the orchard.

Sycamore Group:

During 2009 work has been progressing at Kinsealy on grafting all the selected Sycamore plus trees from Ireland and Great Britain. Conservation collections of Sycamore have now been established at Kinsealy and at Maelor Nurseries in the UK.

Sweet Chestnut Group:

In Ireland a total of 56 plus trees have been identified and propagated, and three seed stands selected and registered. All trees were propagated at Kinsealy Research Centre in North Dublin. Plans are well advanced to have all successful grafts hedged at Coillte's Research Station, Kilmacurra Park, Co Wicklow. These hedges will not only act as a secure gene bank, but will also facilitate the bulking up of numbers in preparation for the establishment of clonal seed orchards in both Britain and Ireland.

www.bihip.org

CCFG Visit to Slovenia

and 20th anniversary of the foundation of Pro Silva

by Phil Morgan, Chairman CCFG

CCFG visited Slovenia and attended the 20th anniversary of the inauguration of Pro Silva at Logarska Dolina in September last year, thanks again to Woodland Heritage who supported CCFG and helped us to send a delegation to mark this important occasion. The Group was represented by Phil Morgan, Rik Pakenham and Jim Ralph and was accompanied by Phil's wife Catriona. Logarska Dolina is high in the Steiner Alps close to the border with Austria in one of the most beautiful parts of Europe and in a country where clearfelling has been banned by law since 1949.

The Pro Silva Annual General Meeting was held before the conference and tour at the Hotel Plesnik that lies at the bottom of a magnificent alpine valley, surrounded by 2,000 metre peaks with forested slopes of Beech and Pine leading to alpine pasture above the tree line. Two of the signatories of the foundation of Pro Silva, ***Brice de Turckheim*** from France and ***Bela Varga*** from Hungary, were honoured with lifetime membership awards; recognition of 20 years of dedicated service from both these outstanding individuals was a very moving experience leaving hardly a dry eye in the room.

Phil Morgan, Chairman CCFG

Photo: Donal O'Hare PSI.

We then welcomed two new countries to the group, Portugal and Norway. Portugal have been attending Pro Silva meetings for many years but only because of the perseverance and enthusiasm of one individual, Joao Paulo Carvalho. But now they have formed a group and are officially part of the wider pan-European organisation promoting better understanding of *Close to Nature Forestry*. Norway had submitted their candidacy at last year's meeting at Freudenstadt in the Black Forest and officially joined the group on this occasion. *Pro Silva Norway has a constitution grouping together a number of enlightened individuals working within quite a hostile forestry environment back home. They were very pleased to be part of the larger organisation and grateful for that support.* A representative from the New England Forestry Foundation in the USA attended the conference with a view to joining Pro Silva and widening links across the Atlantic.

The theme of the conference was *Linking Practice, Science and Educational Outreach for Advancing Close-to-Nature Forest Management*. The indoor conference on Day One was a combination of scientists, managers, educators and high powered international organisation staff presenting their papers with panache and not without some hard hitting messages for this small, friendly organisation of silvicultural enthusiasts.

How is sustainable and adaptive management supported by science? Jürgen Bauhus from Freiburg University sought to find ways of integrating knowledge, of engaging with researchers, to change paradigms and ultimately to develop truly adaptive management approaches that will not necessarily be unique to close-to-nature forestry. How does Pro Silva influence and at what level? Will Pro Silva be at the XIII World Forestry Congress in Buenos Aires or at the Development of Forest Sciences Curricula in Europe Conference?

Tamás Marghescu, retired from IUCN, gave Pro Silva a hard time and challenged how effective we are at communicating a message if limited to speaking to ourselves. Bo Larsen from Denmark lightened the mood with his amusing and irreverent style by questioning some of our assumption and

whether 'Forest management is more than a technical, scientific and managerial matter – it is a social issue!' And he went on through a review of Danish Forest Development Types to explain how meaningless definitions can be if taken out of context and how they only become meaningful if a process of stakeholder ownership is gone through.

For more detail, all of the presentations can be downloaded from the CCFG website: ***www.ccfg.org.uk/resources/resources.html***

Slovenia is the third most forested country in Europe with around half the country covered by forests. The choice of field visits covered all the forest and regional types in Slovenia and by dividing up, the CCFG party managed to attend most over the two days following the conference. Some of the days were so full of activity that long days were spent on the bus, but always passing through magnificent scenery and landscapes.

Slovenia was part of the Austro-Hungarian Empire and owes much of its forest history to the various dukes and princes who acquired land and depopulated large areas in order to develop hunting forests. These have now provided us with the vast forests of South West Slovenia, of Kočevski Rog in the Dinaric Alps with natural systems and higher mammals such as wolf, link and bear.

Karst limestone has taken its name from the collapsed limestone plateaus of Kras and Istria that were deforested due to social pressure and the proximity to larger population centres on the Mediterranean coast and now reforested and undergoing transformation to continuous cover. The karst springs and underground and temporary lakes and rivers create a surreal landscape between Ljubljana and the coast.

Photo: Donal O'Hare PSI

The tallest Norway Spruce in Europe, measured in 2006 as 61.8 metres, is growing on a small farm woodland at Sgerm in the Pohorje Mountains. More exceptional than this remarkable tree is the stand in which it grows, the best example of selection forestry on the whole trip. We were being led down a farm track to see a stand of Silver Fir with a carpet of uniform regeneration below a very elevated uniform canopy that could only become a shelterwood, only to see on the other side of the track the most natural farm forestry selection forest in the whole of Slovenia, showing that the small woodland owner is the master, making careful use of the timber from his farm and wishing to optimise returns and limit effort and costs, but also understanding the benefits to water and to the soils his husbandry provides. This was a truly magnificent sight – and crowned with a 62 metre Spruce, was worth the entire trip.

CCFG visited Slovenia in 1995 and it was a real pleasure to meet with old friends again – some of whom still kept the presents we brought to our hosts all those years ago. Notably a whisky flask we gave to Katarina Celic inscribed to commemorate the visit and still now in perfect working order, but replenished with bilberry spirit.

Pro Silva brings together practicing and academic foresters from all over Europe to share in their experiences of wildly different environmental and economic conditions from countries with often hugely different forest histories. It is that diversity which unites them by acknowledging a common theme to their management, seeking not to emulate but managing with nature in cost-effective ways for the benefits of society and the environment. All are convinced that our silviculture has more to offer at this time when effective carbon management is now recognised as supremely important. We left Slovenia inspired again and taking with us fond memories of some remarkable people who have been campaigning for better understanding of *Close-to-Nature Forestry* for a very long time, and who practice Continuous Cover in myriad different forms across Europe. We are particularly grateful to Prof. Dr. Jurij Diaci and all of his team from the University of Ljubljana who put so much work into organising the conference and visits and who made the 20th anniversary such a success.

Continuous Cover Forestry Group

Brookhouse Wood Apprentice 2009

by Barnaby Carder

I first heard about ***Green Woodwork*** *and the book's author Mike Abbott, while I was involved in some timber framing using Green Oak at Eagle House School, Sandhurst. We made a few shaving horses and pole lathes and got a smith to forge some tools. I was struck by the simplicity and practicality of the shaving horse, and by following Mike's book, I made a few spoons on the pole lathe.*

Nearly a decade later I was trying to scratch a living making wooden jewellery in a Bristol bed-sit using dusty noisy machines in the same room where I slept. That was the driving force behind searching the internet and making contact via Mike's website *www.living-wood.co.uk*

I ended up working for Mike alongside Tom Ball (Mike's previous Woodland Heritage apprentice) for a couple of months during summer 2008 and I was very keen to come back for the whole of the next season as Mike's main apprentice. ***It is with great thanks to Mike and to Woodland Heritage and their funding that I was able to return.***

After gaining my basic chainsaw tickets I arrived back at Brookhouse Wood in March 2009 to help with some felling. Mike manages a 30-acre area of Herefordshire woodland in exchange for use of the woodland for the courses. The workshop and the main shelter had not yet been taken out of winter hibernation but I was extremely pleased to be in the woods. Once the thinning had been done, we had a good stack of wood for chair making and were ready to get the workshop up and running for the courses. The night before the first development week of 2009, Mike announced that Douggie would be arriving and I would be able to share dinner with him. Over the years Douggie *(who worked with Mike's team building the Woodland Heritage Garthwaite Memorial Shelter)* had become a regular on development weeks but I had not met him before. He was definitely from the north and very forthcoming. I noticed he was missing the top part of his left thumb and was rude enough to mention it. He explained he had lost it during some woodworking accident and added that it was now a lot easier to sand the bowl of spoons, as wrapping a bit of abrasive paper around it produced just the right curve! For me, those involved in development weeks are part of the magic of Living Wood. It is an amazing feeling working with volunteers and has been a great way to meet some brilliant people.

Barn carving a spoon.

The start of each new course was always exciting. We would be spending the rest of the week together not just working but sharing the communal living space. The people who arrived on courses were from a variety of backgrounds: teachers and a new breed of forest school enthusiasts, woodworkers including carpenters, cabinet makers and greenwoodworkers, tree surgeons, psychiatrists to name just a few. They came as couples, singles, parent-child combinations, sisters, work colleagues, all sorts. There are also several regulars that have been coming back over the last couple of decades, some of whom must have created several sets of dining chairs.

The courses were either three-day introduction courses where individuals could make anything from spoons to a shaving horse or a stool, or six-day chair making courses. Some people combined the two and stayed a full nine days and attempted a larger project such as a rocking chair. As soon as they had been shown how to use the tools, the workshop would be a hive of activity, pretty much from first light till last. The giant outdoor (but covered) workshop backs onto the kitchen/dining area with a huge round Oak table that easily seats twelve (often the number at meal times). There is an oven in the kitchen and just a few yards from the kitchen is the open fire. There are plenty of beautiful chairs made by previous apprentices, each chair bearing the name of its maker, crudely written by Mike in permanent marker! The communal living was brilliant and luckily for us residents, the visitors would try to out-do each other with the evening meals that they took in turn to cook.

Steam bending days had a real sense of excitement in the air. All hands are on deck as I vied with Mike and the other assistant for the various jobs involved. With the owner of the legs gloved up and ready, Mike would give the signal and the box would be opened. Time is very much of the essence now as

the legs start to cool immediately but of the more haste less speed variety. The legs are removed from the steamer and their owner has to make their way into the workshop frantically trying to find the arrows, which designate which way the legs should be orientated.

The legs must be positioned correctly so that they match (usually being cleft from the same piece of wood and any natural curves can be used or mirrored in the other leg to give elegant and comfortable design). Getting the grain orientated the correct way also reduces the risk of splitting. Once the legs have been pushed into position, someone needs to hammer in wedges holding the pair of steaming back legs in the jig and then to hold the workbench down firmly as the owner of the legs pulls down hard on the arms of the jig (often the smaller course members literally using all their body weight and hanging off these arms).

Once the legs are pulled round the former, the customer is left dangling and told definitely don't let go, while various clamps are put in place to hold it all down. The cumbersome part of the jig can now be dismantled as the still steaming legs are left clamped to the bench to cool and everyone takes a sigh of relief while the next workbench is set up for the next pair of legs.

You could be forgiven for expecting Mike to be a green woodwork fundamentalist but he is very open-minded. He will always listen to what people on courses are saying and will often be heard to say 'give it a go and see if it works'. There was a man who was making chair components on the pole lathe to make them straight then shaving them on the shaving horse to give them the rustic look but I think he really had missed the point. Mike often talks about time and motion and does not like you to take a wasted trip. One would be chastised for walking empty-handed and making two trips out of one (whether assistant, volunteer or paying customer). This attitude is applied to all things and essentially is what green woodwork means to me.

Whilst the wood is green it is easy to cleave along the grain requiring much less energy than sawing and means you do not need heavy protective clothing. This can be a very controlled action leaving you with bits of wood close in size to the final product, meaning less work further down the production line. The best thing is the lack of noise, which not only allows you to hear the tools cutting the wood but also enables you to talk to others whilst doing it.

At the end of each course there would be a rush to get all the components squeezed together and suddenly these bits of wood are now looking like chairs. For some there'd be a few final frustrations getting the seat weaving right, especially if a mistake is noticed ten rows too late and you need to go back on yourself, but everyone ends up with something beautiful and functional. Once everyone was finished there'd be a group photo. It was not difficult to remain enthusiastic about green woodwork when each week I could see what a positive impact it had on these people.

One evening sitting by the fire alone in the wood, my mind started to wander. I dreamt up walls to stop the draft, a chimney to help the fire and stop the smoke that was drifting into my eyes, a boiler so that I could shower, some form of refrigeration. It wasn't long before I had modern suburbia and I wondered what other conveniences would arrive. Where on earth will this take us?

For now I'm keen to leave the complexities of shaving horses, running water and compost toilets. I'm off in spring for a long walk, I hope to sleep in woods and carve spoons. I get immense satisfaction from seeing a spoon that I have carved being used to eat. I've received my peddlers' license and hope to be wandering the streets of villages and towns carving spoons for people, maybe they'd prefer one from me rather than one massed produced in a factory.

To see steam bending in action on YouTube: www.youtube.com – search for "Bending chair legs"

Creating and managing near natural woodland

by David White and Ben Anderson

In April 2009, with support from a travel bursary from Woodland Heritage, Ben Anderson and David White – students at The National School of Forestry studying forest management – attended a study tour of Denmark and Northern Germany organised by the Continuous Cover Forestry Group. The tour looked at the management of existing woodlands and also at the creation of new woodlands.

The management of woodlands as continuous cover has a long history in Europe and changes in management techniques especially in State Forests have led to a form of management more in keeping with natural processes.

There is a very strong market for quality timber in the places we visited and maintenance such as pruning is seen as a worthwhile investment. Cherry *Prunus avium* of high quality as seen in figure three can fetch around 1000 euros per m^3.

As well as the silvicultural care put into species such as Cherry, Oak *Quercus robur* and Wild Service *Sorbus torminalis* there is considerable effort put into conifer species such as Douglas Fir *Pseudotsuga menziesii* on good sites.

Douglas Fir would cost between 12 and 13 euros to be pruned twice and this would still give a reasonable rate of return to the forest. Only the trees with the best potential will be pruned up to eight metres and thinning interventions will be aimed to give these trees sufficient space, at least until the next intervention. Frame trees are not removed until they have reached a target diameter, which on the best Douglas Fir sites could be as high as 80cm DBH.

The quality timber from the frame trees will be sold by tender and this will give a higher return of between 30% and 50% over trees sold at roadside. At Sellhorn Forest District there is a collective tender run annually with up to 5,000 m^3 of quality trees sold by tender in 15-30m^3 lots.

Permanent extraction racks are usually spaced at 25-30 metres throughout the crop to allow the overstory trees to be removed without too much damage being done to understory trees. During forest operations in state forests of Germany there is a legal requirement that harvesting and extraction machines do not leave the extraction racks. Long reach harvesters and clambunk skidders are frequently used in these situations.

The demand for firewood is very high in Germany and Denmark and as we travelled around the rural areas most houses had firewood stacks outside. The market for firewood has really made the uneconomical first thinnings in broadleaves a viable proposition and we are seeing a similar effect in Lincolnshire.

The demand for chip is also good but the high amount of wood being sold as logs is limiting the availability of chips. This in turn means that the use of chip burning equipment is not likely to increase much at present. Chip is being produced from early conifer thinnings even when the trees are of a small diameter. In one wood we visited in Denmark called "Soldiers Wood" 60% of the harvest of trees would be for fuelwood, with the majority being chip. The price for chip here was £35/m^3.

Prices for firewood at roadside varied throughout Germany and Denmark but the highest price realised was 100 euros per cubic metre. With standing timber the top price was 30 euros per cubic metre. With woodchip at prices of 11 euros at roadside and 15 to 18 euros delivered in Lower Saxony it is no surprise that owners are keen to sell produce as firewood logs.

Beech *Fagus sylvatica* is a major component of nearly all the woodlands we visited and without the

Pruned frame tree.

menace of the Grey Squirrel ***Squirius carolinensis*** Beech can be grown profitably and to a high standard.

Most forests contain a mixture of conifer and broad-leaved species. Deer have a major influence on existing woodland particularly when it comes to natural regeneration. Red deer ***Cervus elaphus*** are also problematic by bark stripping species such as Norway Spruce ***Picea abies***.

Butt rot on Norway Spruce often means removing the bottom 2 metres from each sawlog. The average volume of each Norway Spruce is 6-7 m^3 and 50 m^3 is removed per hectare during each thinning intervention. The return per hectare from thinning is 300 to 400 euros, taking into account working and staff costs.

High Roe Deer ***Capreolus capreolus*** numbers were apparent around the Danish German border with groups of up to twelve animals seen on arable fields. Highseats for deer control were very obvious in the areas we visited, with fields often having several highseats located around the perimeter.

An interesting development towards the natural control of Roe Deer populations in the Harz Mountains region of Germany is the reintroduction of captive-bred European Lynx ***Lynx lynx***. A female lynx could cover a home range of 100 square kilometres and would consume around 80-100 roe deer per year.

Purchase of land for afforestation is now difficult. A few years ago land could be bought for 7,000 euros per hectare. Now biofuel companies offer farmers 1,000 euros per year just to rent the land. If a landowner wishes to plant they receive 85% of the total cost of establishment and they can increase the value of the payment by doing some of the work themselves. Landowners have no minimum planting restriction placed on them in Germany but the state forests must plant 3,500 conifers or 5,000 broadleafs per hectare during afforestation programmes. There is also a rule that there must be 60% broad-leaves in the mix.

Private landowners who create new woodland tend to favour high stocking densities similar to those imposed on state foresters because they realise the future benefits from quality timber down the line.

Quality Cherry being admired by the tour participants.

Woodland creation site.

On the site in Nordfriesland that we visited, the soil was deep ploughed to a depth of 80cm to lift leached nutrients in the soil and break the iron pan. A bulldozer was used to create a flat planting surface and level the furrows. Before planting a 1.8 metre high deer fence is normally erected around the site. At the time of planting winter rye is planted over the site at a rate of 30kg per hectare. This provides protection for the soil and suppresses the growth of weeds. It is not thought to increase vole numbers on the site but raptor perches are made available across the site in a bid to control high vole populations naturally.

Great care is put into the choice of species of trees over the site. Soil test pits are dug across the site and then tree species can be selected to suit the microclimate of the site.

Some tree species are often planted to create shelter for the more important component species of the wood. On the site we visited, Larch ***Larix spp*** and Alder ***Alnus glutinosa*** strips of between 10 and 30 metres wide had been used to provide shelter from wind and frost for Norway Spruce, Beech and Silver Fir ***Abies alba***. Frost can be a particular problem especially in Southern Denmark where frost has been known in eleven months of the year.

Extreme weather patterns have been evident recently in the area we visited in the form of wind damage caused by hurricanes.

Another Woodland Heritage

In 1999 Denmark experienced its worst hurricane ever. In Lindet Forest 80% of the total volume of the forest (450,000m³) was blown in 30 minutes. Replanting of the area took four years although some areas had been underplanted or advance regeneration was present so this speeded along the restocking process. Planted areas were fenced with temporary deer fences and planting was carried out on sites where an auger had broken the stony soil. Cell growth trees are planted into the pit.

In Lindet Forest Larch is used for frost protection but Oak is the main long-term crop with Hornbeam *Carpinus betulus* as an understory. The density of trees planted was 3,800 per hectare and the subsidy for replanting was equivalent to £600 per hectare for broadleaves and £271 per hectare for conifers. In some cases the state forestry department could achieve restocking for half of this subsidy. Noble Fir *Abies procera* was planted in some parts of the forest. Contractors harvest the foliage for wreaths (even going as far to climb the larger trees) and the return to the forest is £0.50 per kg. When the Noble Fir reaches the end of its rotation it will end up as chip, which at current rate fetches £35.00 per m³ delivered.

Parts of Germany also suffered severe storm damage to forestry. Neuhaus Forest District lost 300,000 m³ in a storm in 2007. This was mainly Norway Spruce and the amount was equal to three times the annual cut from the district. Some of the windblown timber went to local markets but the majority was peeled and exported in ten metre lengths inside steel shipping containers to Asia. Bark beetles are a major problem with Norway Spruce in the whole region. Pheromone traps are used where possible and timber is often peeled, but even so Norway Spruce is not expected to remain healthy for the whole rotation in many areas.

Climate change predicted for the future will cause more unexpected storms and insect infestation severity is likely to increase.Also trees are put under stress and milder weather increases insect population size.

The research project set up by the International Biodiversity Programme in the mid 1960s in Germany has now evolved into the Roof Project which is looking at the effects of climate change and nutrient uptake on tree growth.

The project has three roofed areas, with each polycarbonate roof covering 300 square metres. One roof plot looks at extreme drought conditions in six to eight week cycles, another looks at extreme rain conditions and the other is the control plot. Another part of the site has an area that is monitored as an ambient plot.

As the climate changes, so will tree growth rates, incidence of windthrow, drought stress and severity of insect pests and none of these factors can be taken in isolation as they all interact. Yield tables will

Ben Anderson & David White outside the Roof Project.

change and become outdated and the forest industry want a modelling system to be developed for the future.

Robert Nuske of Gottingen University is working on a decision support system for forest and climate change that will be a great aid for the German forester. The system looks at the survival of stands from abiotic and biotic issues and also the yield cost functions of regular and salvage logging. There are overlays available for the system covering temperature, precipitation and at present two climate change scenarios. The forester selects soil type from a selection of photographs and then selects tree species they wish to plant. The system then provides data on risk of drought damage, wind damage and beetle damage as well as tree growth patterns and predicted economic pattern. At present it can only look at pure crops and microclimate conditions over a site cannot be taken into consideration but this will change after development.

Conclusions

There are many things in common between the forestry in Germany and England. The LOWE principles of Germany have many similarities with the ideals behind the UK Forestry Standard. In the German State forest the restrictions from Pan European Forest Certification mean that no chemicals, fertiliser or soil compaction off extraction racks is lawful. In England it is good practice to avoid soil compaction and there is a general presumption that chemical use in the forest is reduced, but it is not a legal requirement.

Clearfelling of sites has lost favour in Germany as it has generally in small lowland woodlands of England.

Just as the demand for firewood in Germany has increased so it has in the UK, this has seen an increase in the activity in woodlands and first thinnings of broadleaves becoming viable.

One of the first things that struck us during our trip was how much silvicultural practice and production of quality timber relied on the absence of Grey Squirrels from both Denmark and Germany.

The Thirteen LOWE principles describing close-to-nature forestry in Germany:

1. Soil protection and species choice appropriate to site
2. Enlargement of broadleaved and mixed forest
3. Ecological tolerance
4. Preference for natural regeneration
5. Improvement of stand structure
6. Target diameter harvesting
7. Conservation of old trees, protection of scarce and threatened plant and animal species
8. Establishment of a network of protected forest
9. Guarantee of special forest functions
10. Tending of forest margins
11. Ecological forest protection
12. Game management appropriate to the ecosystem
13. Use of forest technology appropriate to the environment

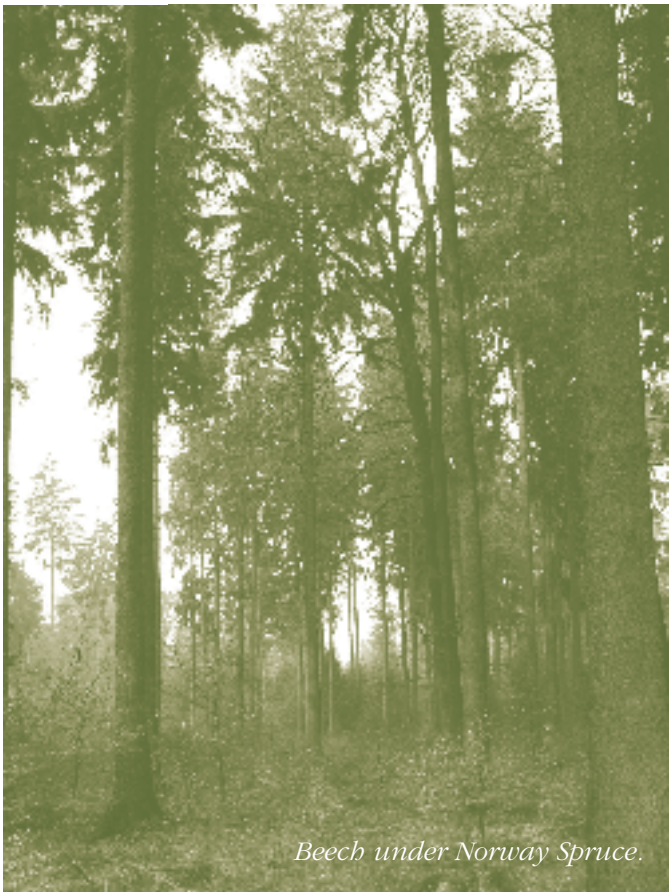
The principles behind the UK Forestry Standard:

1. Forest soil condition
2. Water quality, water yield and water discharge patterns
3. Net carbon sequestration and air pollution
4. Timber production, other production and contribution to the economy
5. Nature conservation
6. Forestry workforce competency and safety
7. Rural development, access and recreation, quality of life in and around forests, increased awareness and participation, community involvement and other land uses
8. Conservation of heritage features
9. Landscape quality

In England there are many places where it would be impossible to have Beech as such a valid part of the woodland. If one looks at the Forest of Dean in Gloucestershire you can find serious squirrel damage on both Beech and Norway Spruce (in fact the damage is so bad these two species will not normally be used for restocking now in this area). Important shade bearing species used for underplanting in Europe such as Beech and Hornbeam are normally very vulnerable to squirrel damage in this country.

In the woodland we visited in Europe there is a history of managing conifers on the better land for quality, with operations such as high pruning being carried out to improve quality. Generally in England in many woodlands, there are not the resources to carry out operations such as high pruning and perhaps also people do not consider the long-term returns warrant the expenditure.

Timber prices in Germany are higher for the best quality timber than they are in England, but in fairness the prices quoted for good quality English timber are not really comparing like for like. German top quality timber is very high quality indeed and we probably have little to match it in this country.



Beech under Norway Spruce.

Top prices raised for top quality timber in most recent German Tender.

Species	Germany
Beech	730 euros m^3
Oak	1,159 euros m^3
Sycamore	5,330 euros m^3
Wild Service tree	7,000 euros m^3
Cherry	1000 euros m^3

Average prices raised for timber in most recent German tender and equivalent average prices from a Lincolnshire Sawmill.

Species	Germany	UK
Oak	493 euros m^3	194 £/m^3
Sycamore	340 euros m^3	138 £/m^3
Ash	174 euros m^3	93£/m^3
Beech	140 euros m^3	72£/m^3
Cherry	125 euros m^3	103£/m^3

Finally we would like to thank *Woodland Heritage* for their support which allowed us to attend this study tour.

Timber Yard Advice

Air Drying

by Peter Goodwin

For those of us who cannot afford large steel framed timber drying sheds and barns, a relatively new product has come onto the market through the horticultural trade. It is called "windbreak netting" and can be successfully adapted to cover piles of timber which are air-drying in the open. It acts as a roof and its micro-fibres prevent driving rain from reaching the boards, whilst at the same time allowing the vital constant airflow.


1

At our Suffolk sawmill we have experimented with this netting over the past five years and *picture 1* shows how this can be used to cover the top and ends of the stack whilst allowing the waney edges of the Oak boards on the sides to protect the timber from the elements.

It can also be used to totally encase a stack of timber which has thinner bark (such as Beech Sycamore etc.). *See picture 2.*

It is perfect for completely wrapping square-edged timber which previously would have been very prone to splitting and cracking if exposed to direct sunlight, rain and snow. Wastage is therefore greatly reduced.

Windbreak netting is also useful for holding stacks of timber together when exposed to storms. It ties down easily and after the dried timber has been taken away, the netting can be reused.

It comes in 3-metre wide rolls of 50 metres each and is sold as "monofilament windbreak 50%". Through the trade we are able to purchase this at about £125 per roll.

Please take note of the very careful methods of "sticking" hardwoods for air drying: never use Oak sticks on Oak boards – Sweet Chestnut, Poplar or softwood sticks are preferred. The bases of all timber piles must be completely level and all bearers and sticks must be accurately aligned.

Perfect bases = perfect dry boards.

1. Beware capillary action of wet grass invading your lower boards. Ideally, use a base of concrete/rubble.
   a) Use railway sleepers – but if creosoted ones, then sticks must be on top to avoid stains.
   b) If the ground is uneven,


2

level the base using shims, wedges and a spirit level.
2. Eliminate top and bottom slabwood boards of each log (firewood) to give flat surfaces.
3. Use 2" x 2" bearers to the full width of the stack. Build your stack as high as is stable and safe for handling.
4. Log piles must be at least two metres apart for maximum air circulation.
5. We use "firebreak" gaps of eight metres between every three piles.


3

Depending on the location of your timber piles, the wind action must be assessed. On exposed sites it is possible to use 1/2" x 1/2" sticks between the boards. On sites where air circulation is low (valley bottoms or proximity to a river) it will be necessary to use thicker sticks to avoid mould forming on the boards. Equally, too much hot summer air can cause unnecessary cracking – but windbreak netting will eliminate nearly all these problems.

Additional Procedure

- Spray against Woodworm/Lyctus beetle in April – and again in July for *Platypus* and *Agrilus* beetles.

Lyme disease: Practices for Prevention

by Edward Wilson

*Lyme disease is the most important vector-borne infection in Europe and North America. It is caused by bacteria of the genus **Borrelia** which are transferred from infected wildlife species to humans through the bite of a tick. Incidence of Lyme disease has risen dramatically during the past three decades, with more than 100,000 cases now being reported world-wide each year. In the UK, Lyme disease is relatively uncommon, though the number of cases is increasing steadily. Forestry workers are among those most at-risk of being infected. This article aims to raise awareness and highlight effective measures for prevention of Lyme disease.*

Transmission

Ticks have a three-stage life cycle (larva, nymph and adult). They require a blood feed between each stage and before laying their eggs. For Lyme disease to be transferred to humans, the tick must first acquire the *Borrelia* bacteria by feeding on an infected host, such as a bird, rodent or deer. Infected ticks then transmit the bacteria to humans, but usually only after they have been attached to the skin for at least 24 hours.

Several species of Ixodid ticks are carriers of Borrelia bacteria. In Europe, the vector for infection is *Ixodes ricinus*, which is commonly known as the sheep, deer, or woodland tick ***(below)***. These ticks are found in forested, heathland and moorland areas, but can also be found in city parks. They favour long grass from where they latch onto a passing host. However, not every tick infested area has a high risk of Lyme disease, as a high proportion of ticks are thought to be free of *Borrelia*.

Ixodes ricinus adult. Ticks are difficult to detect until they start to swell during a blood feed. (Photo: E. R. Wilson 2008).

Late spring, early summer and autumn are peak feeding times for ticks. A lower level of feeding activity takes place in other seasons. Therefore, the risk to humans is potentially year-round.

Symptoms and Treatment

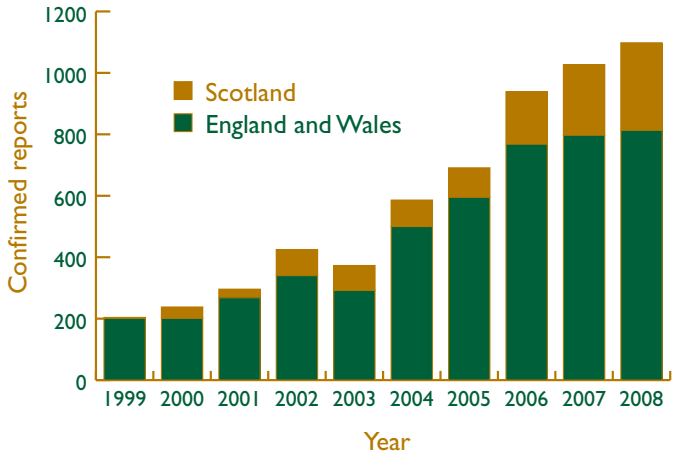
Lyme disease, or Lyme borreliosis as it is also known, is a complex medical condition and the focus of considerable research at the present time. It presents most commonly as a target-shaped rash (called ***erythema migrans***) that spreads from the site of a tick bite. Other features can include vague flu-like symptoms, muscle ache and tiredness, but for a significant number of patients there is no rash or other early signs.

With time, more serious problems can occur as the bacteria disseminates from the initial site of infection. These include a viral-like meningitis, facial palsy, other nerve damage or arthritis. All stages of Lyme disease respond to antibiotics, though treatment is easiest when the rash is still present. No vaccine is currently available. Check the websites below for further information.

Occurrence

Since 1999, nearly 6,000 confirmed cases of Lyme disease have been recorded in the UK ***(see chart)***.The actual total number of cases is likely to be higher as those patients diagnosed on the basis of clinical findings (not requiring lab tests) are not recorded for England and Wales. Among factors thought to contribute to the recent upward trend are improved levels of reporting, and an increase in the population and range of ticks due to successive mild winters. Also, the growing popularity of recreational travel to high-risk areas brings more people into contact with infected ticks.

Populations of ticks carrying *Borrelia* are known to be distributed widely throughout the UK. High risk areas include the New Forest, Exmoor, other woodland or heathland areas of southern England, the South Downs, Thetford Forest, North York moors, the Lake District and the Scottish Highlands. Most of these are holiday and outdoor activity destinations, but anywhere Ixodid ticks are present should be regarded as a potential risk area.



The number of confirmed reports of Lyme disease in England, Wales and Scotland between 1999 and 2008 (Data: HPA and HPS 2009).

People of all ages and both sexes are equally susceptible to infection. Occupational groups most at risk include forestry workers, farmers, deer handlers and gamekeepers; all cases acquired in the work-place should be reported to the Health and Safety Executive (HSE). Up to 20% of lab-confirmed cases of Lyme disease are acquired abroad.

Prevention

Infection can be prevented altogether by taking measures to avoid tick bites and by removing ticks at an early stage of their blood feed. Practice heightened tick awareness, avoid tick infested areas, avoid tall grassy vegetation, and wear clothes that cover legs and arms. Repellents containing DEET may protect uncovered skin.

Checking for ticks should be a routine procedure if you have been in a tick area. Ticks can attach anywhere on the skin surface, but are especially likely in skin folds (i.e., armpits, groin, under the breasts) and around the waistband. Carefully inspect the head, neck and hair of children. Also check that unfed ticks are not brought home on clothes or the fur of pet dogs.

Removal is best achieved with fine-toothed tweezers, pulling steadily away from the skin. Inexpensive tick removal tools are available from veterinary surgeries and pet shops. Burning or covering with volatile oils are not recommended, as these techniques increase the chance of skin damage or the tick regurgitating its stomach contents into the bite.

Final Thoughts

Be "tick aware" for your own safety, and communicate with others to increase knowledge of this potentially serious infection. Dress appropriately and undertake checks of your skin after visiting tick areas. Early removal of an attached tick is important for avoiding infection. And don't panic.

Finally, please remember that this article is not a substitute for professional medical advice and is intended as general information only. If you suspect you may have Lyme disease you should consult your GP as soon as possible.

Further Reading

E. R. Wilson and K. J. Smith. 2009. Lyme disease: ecology, epidemiology and prevention. Scottish Forestry 63(2): 3-11 (PDF copy available. Email request to: *ted.wilson@yahoo.co.uk*)

Useful websites

- *Health Protection Agency (HPA): www.hpa.org.uk*
- *Health Protection Scotland (HPS): www.hps.scot.nhs.uk/giz/lymedisease.aspx*
- *European Concerted Action on Lyme Borreliosis (EUCALB): http://meduni09.edis.at/eucalb*
- *US Centers for Disease Control and Prevention (CDC): www.cdc.gov/ncidod/dvbid/Lyme*
- *Lyme Disease Action (LDA): www.lymediseaseaction.org.uk*

Is open-pollinated seed appropriate for establishing an Oak breeding seedling orchard?

Edward Eaton, Imperial College London

Introduction

Since Evelyn's seminal work of 1729, and Marshall's in 1803, the state of hardwood forestry in the British Isles has been bemoaned. Recent emphasis has often been on the social and environmental impacts of hardwood forestry above the economic considerations (Thurkettle, 1997). If the price obtained for home-grown hardwood timber is to be improved, then the improvement of the genetic composition of the timber population is of vital importance.

Concerted genetic improvement of tree stock began with the United Nations' Food and Agriculture Organisation's International Seed Campaign, which promoted the use of trees with superior characteristics to improve production. Within Great Britain, this manifested itself as the identification of stands of superior trees that would be able to provide seed to improve the quality of existing forests, beginning in 1951 (Savill, *et al.*, 2005). More recently, the EU's TREEBREEDEX programme, with a budget of more than €3 million, aims to improve communication and integration of tree genetic improvement programmes (TREEBREEDEX, 2009).

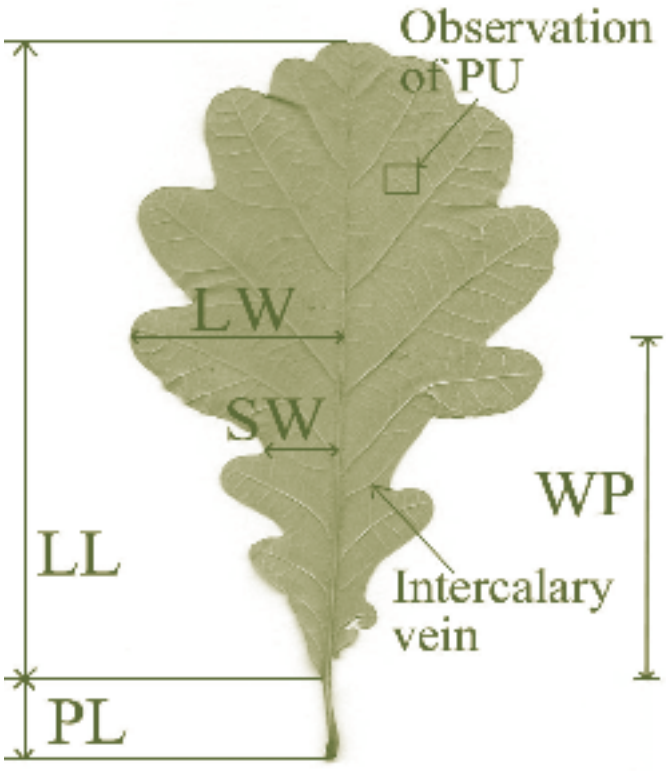


Figure 1: Leaf biometrics. LL = lamina length; PL = petiole length; LW = lobe width; SW = sinus width; WP = lamina length to widest point. PU = pubescence.

Amongst the hardwoods native to the British Isles, Oaks have been amongst the most important to humans. Although no longer vital in shipbuilding, Oak timber still commands a higher price per unit volume than other hardwood species: in Lower Saxony, Germany, Oak averaged €372 per m^3; Sycamore €368 per m^3; and Ash €154 per m^3 (Niedersächsiche Landesforsten, 2009).

Although valuable, Oaks are taxonomically difficult: it is generally recognised that there are two species native to the British Isles – *Quercus petraea* L. and *Q. robur* (Matt.) Liebl. However, the degree to which these two species can interbreed is much disputed. Hybrid trees are usually thought to be intermediate between the two native species, but this is not always clear-cut. In the past, studies have shown high levels of hybridisation in Oaks in the Great Britain and Sweden, but lower levels in Germany, the Netherlands and France. A 1963 study in Scotland concluded that more than half the 1,000 Oaks sampled could not be assigned to either native species with any confidence (Cousens, 1963).

Methods

As the dissertation component of an MSc degree in Conservation and Forest Protection at Imperial College London, I looked at the offspring of Oaks selected by the British and Irish Hardwoods Improvement Programme (BIHIP) as being particularly good trees *("plus-trees")*, and which were identified to species. This project was to establish whether the progeny of these trees now being grown in Breeding Seedling Orchards were the same species as the mother plus-tree, and to consider the level of hybridisation in them. Knowing the species of the offspring is important, as a high level of hybridisation could make the seed production programme less effective and efficient, with more trees having to be removed from the orchard as unsuitable.

Of the eight sites where progeny are being tested within the Great Britain and Ireland, Sotterley, Suffolk (planted in 2003) contained the greatest number of

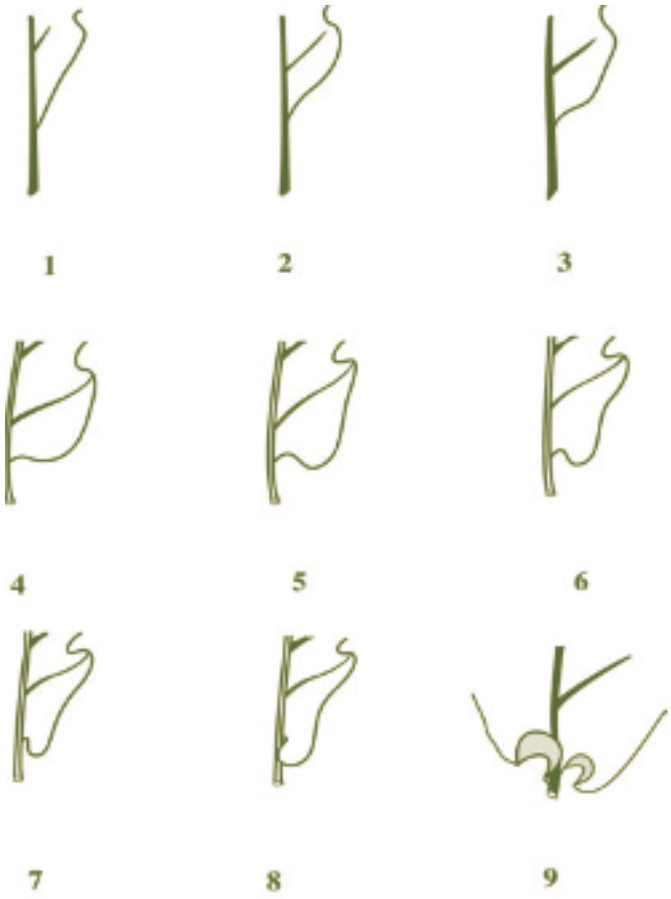


Figure 2: Basal shape scoring (from Kremer et al., 2002).

"families" of Oaks (i.e. the offspring of a single mother tree – the father tree is unknown as the acorns were the result of open pollination). For 36 families at Sotterley, five leaves were taken from each of up to 13 individuals in each family (1,689 leaves from 339 trees). Data were made available from a similar site at Little Wittenham, Oxfordshire, comprising 446 trees. Leaves from clones of the mother trees were kindly provided by Forest Research's Northern Research Station, allowing a comparison with the offspring and testing the statistical method used to assign species (as the species for the mother tree was already known).

Each leaf collected had a number of measurements taken, which were later used to assign species. These measurements are shown in ***Figure 1***, and the shape of the auricles at the base of leaf was given a score ***(see Figure 2)***. From these measurements, five characteristics were calculated, which described the shape of the leaf, the ratio of the petiole to the leaf length, the ratio of the width of the lobes of the leaf to the leaf width, the percentage venation, and the ratio of the width of the lobes to the length of the leaf.

Principal Components Analysis – a statistical technique – was used to assign each of the mean values for each tree sampled to a species based upon the values of the five calculated characteristics plus the hairiness of the leaves' underside and the shape of the auricles. This analysis produced a value, which if positive assigned the tree to *Q. robur*, and if negative to *Q. petraea*.

Results

There were no trees that fell in between the two groups that became apparent. This indicates that there were no hybrids in the population that was sampled. Furthermore, the two groups of trees showed significantly different leaf morphologies, with perhaps some overlap in leaf characteristics in particularly extreme individuals. *Q. petraea* trees were generally more variable in their morphology than *Q. robur*, and possessed longer leaf stalks (petioles), had fewer intercalary veins, smaller and less distinct auricles, and denser hair on the underside of the leaves. These characteristics are relatively easy to assess in the field, and this study suggests that they would provide a reliable general guide when assigning species.

Discussion

Amongst the families of Oak trees, all but one had more than 80% of the offspring assigned to the same species as the mother. Overall, one tree in 12 for *Q. petraea* and one in 33 for *Q. robur* were assigned to the other species to the mother tree by the statistical method used. This project has not solved the "hybrid controversy" as to whether *Q. petraea* and *Q. robur* hybridise extensively or not, but has provided weight to the argument that they are separate species. However, these species share similarities in the form of their leaves that may lead to mistaken identification or an individual being described as a hybrid. ***The question as to whether open-pollinated seed is suitable for use in Breeding Seedling Orchards such as those planted by BIHIP, with the aim of the improvement of British and Irish Oak stock, is that the level of hybridisation is so low, if it happens at all, that one can collect acorns with a good degree of confidence that the offspring will be the same species as the mother tree.***

Acknowledgements: the author would like to extend his thanks to Dr David Boshier (Oxford University), Dr Simon Leather (Imperial College London), Dr Peter Savill (BIHIP), Jo Clark (Northmoor Trust), Miles Barne of the Sotterley Estate, Suffolk, Dr Jason Hubert (Forest Research), Dr Karsten Schönrogge (Centre for Ecology & Hydrology), and staff and students of Imperial College London.

80% Funding for Woodland Management Advice in the East of England

Lockhart Garratt Ltd (LGL) has been selected as one of five contractors to provide subsidised advisory services to woodland owners and occupiers in the East of England. This is a new five year project to help owners and occupiers identify the economic potential of their woodland and its capability to support the woodfuel supply chain. It has recently been commissioned by Woodfuel East with funding from the East of England Development Agency via the Rural Development Programme for England.

Justin Mumford, LGL's Director responsible for the project delivery, said "We are delighted to have secured this project as it offers woodland owners and occupiers the opportunity to receive professional and bespoke woodland management advice at a heavily subsidised rate: 80% of the eligible advisory costs being met by RDPE grant aid. The grant supports a day's advisory service per woodland owner/occupier and involves minimal paperwork – just signatures on the Woodfuel East Advisory Services Report and data consent form.

For this, we would undertake a site visit to identify key opportunities and constraints to enable improved woodland management and realise economic and woodfuel potential. We would also complete the Woodfuel East Advisory Services Report to provide an informative woodland summary which in turn could provide the basis for dedicated management plans or activities that could be funded under the Forestry Commission English Woodland Grant Scheme or other relevant funding mechanisms.

As one of England's leading independent consultancies in all matters relating to trees, woodland and forestry, we are looking forward to helping owners and occupiers in the East of England realise the economic potential of their woodland now and to plan for the future."

If you are located in the counties of Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Suffolk or Norfolk and would like to find out more, contact:

Justin Mumford
on 01536 408840
justin.mumford@lockhart-garratt.co.uk
www.lockhart-garratt.co.uk/woodfuel east advisory services

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Woodfuel East is supported under the Rural Development Programme for England by EEDA, Defra and the EU together with the Forestry Commission.

Minor Conifers Research Project

by Scott McG Wilson

Background

This article reports the outcomes of an independent study by the author, funded by Woodland Heritage, examining the silvicultural and timber utilisation potential of the "minor conifer" species in Great Britain. This was based on the development of a set of some 30 illustrated case-studies, demonstrating successful experiences of growing, marketing, processing and utilising these timbers from throughout the country.

The species selected for inclusion in the project were Douglas Fir, Larch, Grand Fir, Noble Fir, European and Pacific Silver Firs, Western Hemlock, Western Red Cedar, Coastal Redwood, Japanese Cedar, Nootka Cypress, Lawson and Leyland Cypresses, Monterey Cypress and Monkeypuzzle. A conscious decision was taken to include Douglas Fir and Larch, as, although they have well developed markets, current establishment and restocking of these species is at a level well below that necessary to meet latent future demand.

Over recent years the British sawmilling industry has specialised in the processing of Sitka Spruce (and to a lesser extent Scots and Corsican Pines) using high-tech Scandinavian derived continuous-flow mill-lines. These are optimised for uniform material in the 30-60cm diameter class and address standardised markets such as timber-frame carcassing and treated fencework. There has been a growing perception of difficulty in marketing timbers of the major conifers in diameter classes above 60cm and of the minor conifers in any size classes, with the exception of very high-quality Douglas Fir stems. Some species, such as Frand Fir and Western Hemlock, have come to be regarded as virtually unsaleable.

However, against this background there is growing interest in the potential of the minor conifers for future silviculture and timber production within Britain. Some of the key factors serving to promote this interest are:

- *climate change* - predicted effects on Sitka Spruce in drier parts of the country – drought damage has already emerged in north-east Scotland after 2003.
- *pathogen outbreaks* – notably the incidence of red-band needle blight affecting Corsican and Lodgepole Pine plantations and threatening Scots Pine woods.
- *timber treatment* – changes in regulations affecting the use of CCA salts to treat Spruce and Pine for use in external applications, favouring durable timbers.
- *silvicultural transformation* – moves to wider adoption of continuous-cover selection systems which favour the use of species with shade-tolerant regeneration.

Britain has a substantial, if dispersed, resource of maturing plantations of a range of minor conifer species. These were mainly established between 1920 and 1960 by both private growers and the Forestry Commission, adopting experience acquired in forest gardens and arboreta since the mid-1800s. These successful plantations have well demonstrated the silvicultural potential of a range of these species, and are now supplying the growing small-scale, specialist wood-processing sector which is the focus of many of the case-studies developed within this project.

This work has revealed a higher than expected level of processing activity for many of these species, with considerable latent demand for some of them, especially those with a degree of natural timber durability. Increased adoption of these species offers potential solutions to some of the other challenges highlighted – for example alternatives to Sitka Spruce and Corsican Pine where required and suitable options for CCF selection forestry. *However a number of perceived obstacles remain to their wider adoption, including an inadequate research base on tree improvement and silviculture, a fragile in-service silvicultural knowledge-base and unsympathetic forest policy and grant regimes. The PAWS restoration agenda has emerged as one of the more acute challenges.* After discussing the potential of each species, this article will then conclude with some some suggested ways forward.

Douglas Fir

Douglas Fir might be considered an "honorary" minor species in that it is in substantial demand for construction timber across the country. However this latent demand is currently being met mainly from a finite resource of fine "capital" stands established

Douglas Fir beams at Somerscales sawmill.

during the 1920s and 1930s, many on Forestry Commission lands, as well as on some private estates and water-supply catchments. Particular concentrations of fine stands are to be found in Highland Scotland, the Borders, Lake District, Wales, the Marches and southwest England, with outliers in the New Forest and Thetford further east. Stands established since the war have generally been less successful, probably through a combination of provenance and early tending decisions.

Several case-studies were developed around the use of long, large-section Douglas Fir beams for load-bearing applications in building construction and marine work. The C24 stress-grading appellation is often sought. ***There are a number of specialist mills sawing these beams, including Somerscales and JB Timber on Humberside, Gilmour & Aitken on Clydeside and East Brothers near Salisbury.***

There is strong competition for large, pole-length Douglas Fir stems in the 70 to 90cm class, which justify transportation from all parts of Britain. Log prices can exceed £100/m³ at times of exceptional demand. There has been an increasing tendency for large Douglas Fir beams to be specified for premium architectural projects such as shopping malls, heritage visitor centres, sporting arenas etc in place of steel or GLULAM beams. Smaller Douglas Fir beams are used in individual house construction projects and the timber is also sought for carcassing, decking, fencing and other sawn markets.

While some fine stands of Douglas Fir are being managed on CCF systems, regeneration can prove problematic. A number of stands have been felled and restocked with Sitka Spruce (on grounds of more reliable establishment) or with native hardwoods (on PAWS restoration sites). ***New planting with Douglas Fir, especially in Scotland, is at a much reduced level. These trends, taken together, are limiting the supply of premium material for the future and encouraging processors to source French, German and second-growth North American log supplies.*** There is potential to address this by use of suitable provenances of Douglas Fir to restock drought and pathogen stressed stands of Sitka Spruce/Corsican Pine in eastern Britain.

Larch

Larch has been grown in Britain for over 200 years, especially in parts of central and eastern Scotland. It was traditionally used as a construction and boatbuilding timber in place of Oak, and for the latter purpose retained its position even after the introduction of Douglas Fir and Sitka Spruce. For these demanding applications, European Larch of 150 to 200 years was originally preferred, but 70 to 90 year slower-grown material of both European and

Larch cladding in Highland Scotland.

Hybrid (Dunkeld) Larches is now in demand. Japanese Larch is less sought-after and tends to find mainly poorer markets. ***The case-studies developed within the current project for Larch centred on the three main markets (a) boat-building, (b) cladding and (c) smaller-dimension structural timbers.***

While traditional Larch-skinned fishing boats are now an occasional trade, there remains a considerable demand for smaller Larch-hulled pleasure boats and for repair of larger vessels. In northern Scotland, Wales and Cornwall, there is also an increasing interest in heritage boat building such as the recreation of Viking longboats and Gaelic birlinns. Traditional boatskin suppliers such as JB Timber on Humberside and Gilmour & Aitken on Clydeside are still involved, alongside a range of smaller artisan sawmillers. Larch cladding is in growing demand, with home-grown material now increasingly accepted as an alternative, and equivalent, product to the more traditional Siberian Larch. Especially in Scotland, Larch cladding was long seen as a vernacular building method in rural districts, and many architects are specifying Larch cladding for new builds, including office buildings, schools, community centres, individual houses and rural social housing projects.

The *Scotlarch* brand promoted by Russwood of Newtonmore is an example of the increasing scope of this sector, and considerable performance and durability research has been pursued at the Centre for Timber Engineering, Edinburgh. ***Larch does not attract the same premium as Douglas Fir for very large-dimension structural members, but there is interest in systems using smaller Larch beams and battens such as the gridshell roof of the Savill Building, Windsor.***

There seems little question that the standing resource of high-quality Larch stems is gradually being consumed, but there is good potential for future management of fine Larch in well-thinned stands, mixtures with Pine and Spruce and indeed as

a minor component of broadleaved woodland, where it has lesser effects on desirable PAWS attributes.

Western Red Cedar

Western Red Cedar has been planted in Britain since the late 1800s, with some of the finest stands in existence dating from early Forestry Commission plantings in the 1920s – for example at Gwydyr and Forest of Dean. ***A number of private estates throughout the country have a notable record with the species, including Novar (Easter Ross), Darnaway (Moray), Kyloe (Northumberland), Longleat and Stourhead (Wiltshire), Dunster (Somerset) and Weasenham (Norfolk).***

Western Red Cedar appears to grow very well throughout Britain on many site types, including wet upland sites in Wales and Scotland and dry lowland sites in southeastern England and East Anglia. It also regenerates well in CCF selection woodlands etc. Although few new plantations have been created since the early 1960s, there is clearly good potential for the future.

While Western Red Cedar was originally seen as a semi-commercial estate mill timber, it is now finding stronger markets for external carpentry and joinery work, on the strength of its natural durability. While this may not quite reach the levels of Canadian old-growth heartwood, it far exceeds that of home-grown Pine and Spruce timbers. ***A number of case-studies were developed for Western Red Cedar, dealing with emerging markets for cladding, garden construction, glass-house framing and beehive making.*** These have in common their requirement for consistent supplies of well-grown Red Cedar in the 30-50cm class, preferably with a predominance of heartwood, and without the need for excessive transportation. Activity is centred mainly in England and Wales, with concentrations of processing in the Marches, southwest England, the south coast and East Anglia/ Lincolnshire. However interest in Scotland is currently increasing, drawing upon a more dispersed Cedar resource across the Scottish Highlands.

With demand for Western Red Cedar likely to continue to increase, there is a need to establish new well-tended plantations of this species on suitable sites, and to avoid losses of existing stands by clear-felling. The latter is often happening within the context of PAWS restoration. Anecdotally, current demand for nursery planting stock is at a very low level and most restocking is by natural regeneration. ***It was notable, in the case of Western Red Cedar, that it was possible to find growers lacking a market and processors lacking timber supplies within a single region – this could be addressed by better communication.***

Western Red Cedar.

Western Hemlock and Silver Firs

This group of species, marketed as "Hem-Fir", in North America, includes Western Hemlock, Grand Fir, Noble Fir and the European and Pacific Silver Firs. These species have been grown productively in Britain since the late 1800s (European Silver Fir since the 1600s). However, although their timbers have been accepted for construction and joinery use in North America (and Continental Europe for the European Silver Fir), they have traditionally been viewed with scepticism by the British sawmilling sector. ***This is unfortunate given their ecological suitability, silvicultural productivity and regeneration capacity within CCF selection forestry.*** In part, the difference in views of these species stems from the fact that their timber may develop differently under natural growth conditions as opposed to the even-aged plantations found in Britain.

A number of case studies were developed reporting the growing and marketing of these species for "run-of-the-mill" applications, including treated fencing, dunnage, pallet and potato box manufacture. These provide reliable local markets for growers, while not particularly lucrative. Enterprising small-scale sawmillers are willing to take these timbers at prevailing market prices and process them for lightly-specified carpentry uses, with or without treatment.

These include shed construction, ship-lap cladding and mountain-bike "Northshore" boardwalks. Hemlock has a reputation among more knowledgeable sawmillers as being easy to work and accepting planing and nailing well, compared, for example, with Spruce. Some development work has been undertaken on the potential of Noble Fir for untreated cladding applications, using a combination of drip-shedding chamfer-edging and careful technical barrier detailing. ***Heat-treated Noble Fir has been demonstrated by Coed Cymru for internal joinery work.*** A small number of sawmillers will now accept Hemlock and Grand Fir for short-run rustic beamwork in barn restoration and agricultural building projects.

Due to the ecological and silvicultural potential of these species, further research is now merited on the potential to select against degrades such as fluting and included bark in Hemlock and drought crack in Grand and Noble Firs. The European and Pacific Silver Firs may have a potential role for future use in selection forestry situations on site types intermediate between the bottom-land site preference of grand fir and the montane site preference of Noble Fir.

Redwood

Coastal Redwood ***(Sequoia sempervirens)*** is productive in Britain and has demonstrated its potential in a small number of famous stands such as the Charles Ackers Grove at Leighton (Powys), Longleat (Wiltshire), Dartington Hall (Devon), Kyloe (Northumberland) and Benmore (Argyll). ***Aruyn Morgan's recent articles (see Woodland Heritage 2009) have set out in detail the silvicultural and wood processing characteristics of this species in Britain.*** Two case-studies were developed for the present project, one dealing with use of Redwood for chalet construction and the other as an attractive outdoor decorative timber for garden landscape design. There is clearly further potential for silviculture and utilisation of the Coastal Redwood within Britain.

Cypresses

The main Cypress species grown in Britain have been the Lawson Cypress and the Leyland Cypress (itself a hybrid of the Monterery Cypress and the Nootka Cypress). As well as their role as hedging plants and game cover, Lawson and Leyland Cypresses have been grown as plantation forestry species by the Forestry Commission in a number of locations, and by some private estates, notably Longleat.

Their timber is semi-durable, some argue comparable with that of home-grown Western Red Cedar, although of a paler colour. Many plantations have been badly underthinned, resulting in a dense growth of thin, multi-stemmed trees. ***However, where better tended, as at Longleat, the species can perform well on a wide range of site types, producing timber suitable for fencing material and cabin building.***

Monterey Cypress.

A single national case-study was developed for these two species, highlighting these applications, including the construction of a log cabin of Leyland Cypress for the Forestry Commission visitor centre at Grizedale, Lakes. Some sawmillers are looking at the potential of these species as a substitute for Western Red Cedar for cladding and beehive manufacture applications, given the potential future shortage of mature Western Red Cedar plantations.

The Isle of Wight has notable plantations of Lawson and Leyland Cypresses, but in addition the Monterey Cypress ***(Cupressus macrocarpa)*** has been planted at a number of locations on the island. This species, although often of rather poor stem form, produces a highly durable and attractive timber that is suitable for furniture-making and outdoor applications such as board-walks and beach stairs – the subject of a local case-study on this unusual species. ***Given their timber properties there seems a good case for a modest expansion of Cypress planting in Britain, so long as it is accompanied by consistent selective thinnings.***

The Nootka Cypress ***(Chamaecyparis nootkatensis)***, also known as the Yellow or Alaska Cedar, produces a highly valued and durable timber

which is in demand around the northern Pacific rim. The species has been trialled in forest gardens within Britain, but is known to suffer from rather slow initial growth. Further research would be required before it could be recommended for wider planting within Britain, but it should not be discounted.

Cedars

There has been a tradition of growing specimens of the true Cedars *(Cedrus spp)* in Britain – Deodar and the Lebanon and Atlantic Cedars. Their timber is in high demand for "hardwood equivalent" furniture markets when available, but the volumes harvested are small.

The Japanese Cedar *(Cryptomeria japonica)* has been planted out on quite a number of estates and Forestry Commission land-holdings throughout Britain – especially in western coastal areas of Cornwall, Wales and Argyll. It grows well, and, especially if appropriately thinned, produces valuable, semi-durable timber. Although there is limited experience of processing this species in Britain it appears to be comparable with Western Red Cedar, although of a paler colour and would be likely to serve similar markets such as cladding, shed-building and beehives.

The timber is highly sought-after for construction in its native Japan, although conservation restrictions have led to its widespread substitution by Yellow and Western Red Cedar imports from the Pacific Northwest. Further research is now required to evaluate its potential further in Britain and to define those site types where it might be preferred to Western Red Cedar, when selecting semi-durable species.

Monkeypuzzle

In addition to individual specimen trees, there are small plantations of this species on Longleat and Kyloe estates. A national case-study was developed, centring on use of their timber for decorative turnery and craft furniture, making a feature of the unusual whorl knot patterning.

Stand of Monkeypuzzle on the Longleat Estate.

Ways forward for the minor conifers

While the main objective of this work was to highlight the potential of the minor conifer species, it inevitably also highlighted a number of areas where action is needed to unlock that potential for the future. Key strands were:

Research

It was quite evident that the forestry research effort needs to be partially redirected from a current focus on Sitka Spruce and the native tree species (including Scots Pine) to address a wider range of productive forestry species. In particular investigations along the following lines were now required to address the "minor conifer subsector":

- Provenance studies and tree breeding work needs to take in a range of the minor conifer species, through the field selection of plus trees from the home-grown resource, establishment of improved seed orchards and selection against undesirable traits such as fluting in Western Hemlock and crack in Grand and Noble Firs.
- Silvicultural research should re-focus from a current emphasis on clear-fell/replant and shelterwood systems towards selection systems for the future management of mixed-species woodlands with a significant component of shade-tolerant species. Yield modelling and thinning prescriptions for species such as Douglas Fir, Larch and Western Red Cedar would also merit improvement for regular and irregular stands.
- Technical development work should address some of the key active constraints to effective management of selection forestry, especially on steeper ground in areas where public recreation remains a key priority. Development of cable-crane, log-chute, helicopter and horse/quad-bike logging methods would be of benefit.
- Wood technology research should move on from its successful focus on Douglas Fir structural timber and Larch cladding to a greater emphasis on the massive timber construction and timber engineering methods capable of absorbing larger volumes of the weaker species such as Western Hemlock and the *Abies* Firs by jointing of small batten material into larger elements.

Such work could now be addressed by alternative research providers including universities, consultants and NGOs such as the Northmoor Trust and *Woodland Heritage*, complementing the valuable work of Forest Research.

Training

Very many of the Forestry Commission woodlands and private estates visited in connection with this project were under expert and committed management. However there was a perception that the scope of silvicultural training being delivered in

the university and in-service sectors had recently tended to neglect what might be called "classical silviculture", particularly as applied to selection forests of the shade-tolerant minor conifers. This has led, in some cases, to a lack of confidence in mid-career forestry staff, especially as regards selective thinning of stands and marketing of resulting produce. There is also a tendency to favour computer-aided "management by prescription" which sometimes excludes choices of minor conifers for stand establishment, leading to "forest simplification". ***Reinvigorated silvicultural training at all levels, coupled with restored "beat forester autonomy" would be likely to foster a much more favourable environment for more experimental adoption of minor conifer species options.***

Marketing

Most foresters develop a good understanding of the local markets for the principal species which they grow. Some private estates such as Longleat, Stourhead and Kyloe, which have a long heritage of growing a wide range of minor conifer species, have developed the "off-the-shelf supermarket" style of marketing, felling on demand. However other managers may regard minor conifers as a marketing problem, seeking to release them into the same markets as their major crops, often for a reduced price. In most cases species-specific marketing (as exemplified by the FC Scotland niche marketing initiative in Argyll and Lochaber) results in recovery of greater value for the grower and additional rural development advantages. A supporting mechanism would be some kind of national or regional "bulletin board" (distinct from electronic auction) which would match up supply and demand for minor conifer timbers, allowing the smaller growers to find commercial outlets without excessive time commitment.

Forestry policy and grant regimes

A high proportion of the most productive stands of minor conifers are to be found on sites which were replanted from native woodland between 1920 and 1970. These are concentrated on the lower slopes in sheltered valleys in areas such as Wales, the Marches and southwest England, and enjoy low windthrow risk and fertile brown-earth soil. Such sites are now termed ***"Plantations on Ancient Woodland Sites"*** or PAWS, and both policy and grant mechanisms favour their restoration to native species composition over time. Growers seeking to restock these sites with non-native species are generally not eligible for the full-rate (or in some cases any) forestry grant support, certainly for replanting. Methods of "PAWS restoration" have moved on from the early "clear-fell and naturally regenerate" option towards adoption of more gradual silvicultural transformation by means of CCF approaches, allowing the owner to recover

Leyland Cypress log cabin at Grizedale in the Lake District. (Photo: Mick Read).

standing value. However the longer-term objective remains centred on removal of the non-native species. While this may well be the correct approach in some cases, there is a feeling of a "blanket policy prescription" which does not take full account of the various values inherent in the forests created since the 1920s. There is certainly an attrition of the available ground for productive Douglas Fir, Western Red Cedar etc, which limits the potential for future timber production. ***To date, only a very small minority of the native hardwood stands created under PAWS restoration schemes have received early tending consistent with quality hardwood timber production in the future, though that may change.***

The forestry grant regime more widely, especially in England, currently places over-riding emphasis on what would formerly have been regarded as secondary forest benefits such as biodiversity and public recreation. While those are important, a restoration of the emphasis on production of quality timber (and creation of a national strategic reserve of same) would create a more favourable environment for the establishment and competent tending of productive stands of minor conifers. The case-studies developed for the current project, are, in large measure, reports of how an existing "national strategic reserve" of timber, established between 1920 and 1960 is now being utilised. Policy and grant drivers should encourage the silvicultural excellence necessary to ensure that this resource now continues to be developed for the future.

Scott McG Wilson

Dr Scott McG Wilson is a forestry consultant based in Aberdeen, who pursues science-based research and development work in support of the productive and sustainable management of forests across Britain. Scott is active in several forestry organisations, including the Royal Scottish Forestry Society, Royal Forestry Society, ICF, CCFG and the Silver Birch group of the British and Irish Hardwood Improvement Group (BIHIP).

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