DECAYING WOOD

RECYCLING WITHIN ARBOREAL ECOSYSTEMS

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Dead wood may well have recently died, and no longer part of the living tree, or even attached to it, but we should not be calling it DEAD, because it's DECAYING. You may think this is just another word for the same thing, but unlike Monty Python's dead parrot sketch, the point is that dead wood is anything but dead. The description dead wood implies a static state, without the consideration for the process of decay, and the diversity of life forms involved.

WHY DECAYING WOOD?

Decaying wood, which we have spent years removing, cutting off, and scraping out of cavities, because we have considered it to be dead and therefore of no use, is perhaps more important to the arboreal ecosystems than the living trees. The woody tissues of the tree may no longer be alive as far as the tree is concerned, but they are being decayed by a multitude of different organisms, while providing shelter for many more.

It is the process of decay which is the focus here, the progression of use by different organisms. Some like their wood served up fresh with the sap still ebbing from it's vessels, while there are those that prefer it when others have had their fill and all that is left is a mass of soft cellulose or brittle lignin. The diverse array of organisms that are involved in the breakdown of dead woody tissues is truly amazing. So much so that decaying wood can be considered a specialist habitat in it's own right.

The figures are quite astounding, just considering the invertebrates that exist and depend on the decaying wood habitat, which include 1700 species in Britain, 6 % of total British Fauna. The worrying fact is that 40 % are either British Red Data Book Species or labelled nationally scarce. In an effort to reduce potential losses, the JNCC* and RSPB** produced a practical handbook called 'Habitat Management for Invertebrates', which was republished in 2001.

Ancient wooded landscape in the Elan Valley Wales. Photograph by Andrew Cowan 2002

For those of you with a background in woodland management, Forest Enterprise produced a publication last year, called 'Life in the Deadwood - A guide to managing deadwood in the Forestry Commission forests'. The cynical among you may think that this is a booklet on early retirement for foresters, as the Forestry Commission (FC) undergoes another change of identity, and yes, the FC is making changes in it's management strategies, but they are about new objectives that are evolutionary rather than revolutionary.

The current emphasis on biodiversity and protected species, which has come from European and international agreements and directives, has forced a change in management strategies and a shift in long term objectives. However, there is revolution afoot, with more and more people, and organisations, recognising the need to focus on a broader picture. In conservation the world over, the time and money has been invested in 'fire fighting', to protect and preserve endangered populations of particular species.

The solution is one that manages the system, rather than concentrating on its component parts, if we can maintain healthy ecosystems the biodiversity should take care of itself. However, we cannot and should not try to force long-term change, if we are to be successful in sustainable conservation, our role needs to be one of encouragement and persuasion.

* Joint Nature Conservation Committee

** Royal Society for the Protection of Birds

Historically, woodland managers have removed dead wood on the basis of hygiene, to protect the timber resource from what have traditionally been perceived as pests, like insects and fungi. This is also true of many, parkland and garden sites managed by arborists, where dead wood in trees is seen as a liability, and is removed for fear it may fall and injure someone. The result is that there is simply not enough decaying wood habitat to sustain populations of many key species of conservation importance.

Dead and dying trees play a vital role in the functioning and productivity of arboreal ecosystems through effects on biodiversity, carbon storage, soil nutrients cycling, energy flows, hydrological processes and natural

regeneration of trees (Humphrey et al, Life in the Deadwood). This is a point now generally recognised but this has not always been the case. The generations of managers that have religiously felled and removed dead and dying trees, has left us with a huge shortage, which is likely to take decades to replace.

The generation gap is aptly demonstrated when we look at the rare species, which are associated with our ancient and veteran trees. Many of these are only found on sites where there has been a continuity of decaying wood habitat for hundreds of years. However, ancient trees may appear plentiful today, but for how much longer? Next time you visit a site containing ancient trees, look around at the rest of the wood or parkland, and consider where the next generation will come from.

The organisms that rely on decaying wood habitat are becoming increasingly isolated, in time and place. This is made worse by their lack of mobility, which means that the creation of an intermediary 'bridge habitat', is essential if these species are to survive. This is a fundamental part of our involvement in the sustainability of arboreal ecosystems and the maintenance of biodiversity.

There are two distinct types of decaying wood habitat, the first is associated with standing dead trunks, limbs or branches left around the outside of the tree, while the second is found within the trunks and branches themselves, where the decay forms cavities. It is important to be aware of this distinction because the habitats that are created are quite different and require specific techniques to recreate them.

Standing dead wood, whether as whole trunks or branches within the crown of otherwise healthy trees, is relatively easy to replace by the resurrection methods described by Mark Robinson page 9 (see below). This type of decaying wood habitat breaks down from the outside in, providing a large surface area for occupation by invertebrates, fungi, lichens and mosses.

However, when it comes to the creation of the decaying wood habitat found within the trunks and branches of trees, the techniques involved are not quite so simple. The decaying wood inside living trees decomposes from the inside out, forming cavities, rot holes and hollow trunks, which are created by invertebrates and fungi, but go on to provide shelter for a diversity of birds, small mammals and reptiles.

CREATING THE HABITAT

Training as a practical arborist has progressed over the years, from the days of old when tree surgery work involved carting a hand axe and cross cut saw around the tree, through the era of flush cutting and cavity excavation, to the enlightenment of target pruning and an understanding of CODIT (Compartmentalisation Of Decay In Trees). However, modern pruning techniques may prolong the safe useful life of the trees in our parks and gardens, but they are threatening the sustainability of arboreal ecosystems, and potentially the life expectancy of the tree themselves.

Example of a 'Monolith' where, due to structural instability the branches and crown of the tree were removed. The tree has now been allowed to remain in position and become decaying wood habitat in a safe environment Photograph by Mark Robinson 2003.

There is a tendency to use pruning techniques, like reduction or thinning, to maintain trees in a particular form or shape. Our use of terminology is prone to describing a particular state, like dead wood for instance, rather than considering the process of decay, hence decaying wood. When we look at managing a process, the emphasis shifts, because this involves an understanding of how things change as they adapt within a natural system.

To create the bridge habitat so desperately needed by some of our rarest flora and fauna, we are going to have to adopt destructive pruning techniques, which will contradict much of our formal training. However, our knowledge of tree biology is going to be essential, because if these methods are going to succeed we need to mimic the natural processes of tree decline, which is a slow progressional balance.

The term veteranisation is being used to describe destructive pruning methods, which accelerate the ageing process of trees, by inducing controlled stress. We do not have the knowledge or understanding to duplicate nature, because natural tree decline starts below ground, when the root system becomes exhausted and can no longer support a full crown of leaves. The transportation paths then start to break up and the tree progresses into a stage of retrenchment, like an army in retreat, resources are moved to a more central location.

The selective use of destructive pruning methods that involve natural fracture techniques and coronet cuts, encourages premature retrenchment, by reducing the crown area, while providing niche habitat for decaying wood organisms. This veteranisation of healthy trees is an essential part of the management of arboreal ecosystems, particularly in association with ancient decaying wood habitats where the generation gap is greatest. It can also be used instead of natural target pruning when managing hazardous trees, by reducing the potential for a lever arm to fail, while also retaining more structure within the trees crown.

SUSTAINABLE CONSERVATION

The creation of bridge habitats is a lengthy process, so consideration has to be given to the sustainability of the existing decaying wood, within our ancient arboreal habitats. The slow process of decay can significantly reduce the integral strength of trees, compromising their structural stability, ultimately leading to partial then total collapse. This is a natural progression and would not normally be a problem, but our obsession with the removal of, what has been perceived as, dead wood now means that for many organisms, there may be no where else to go.

Research into the sustainable management of ancient trees has been the focus of the Ancient Tree Forum for over ten years now. A pruning method known as restoration pruning became a recognised system of trying to reinstate lapsed pollards, which had become unstable. This involved the selective reduction work necessary to restore a more uniform and sustainable crown form.

There are some, who would express reservations about the use of the term restoration pruning. This is because it is in principle, a descriptive term for, a method of restoring, reinstating and imposing a physical state on the tree, which

This ancient oak in the Elan Valley, Wales, provides a decaying wood habitat for numerous organisms. Photograph by Andrew Cowan 2002

ANNEXE 1: NECTAR SOURCES

A large proportion of the decay process is performed by juvenile invertebrates, which survive in the shelter of the decomposing wood, which provides them with all the nutrients they need to develop. However, when they leave the decaying wood as adults, they need a source of nectar to provide them with sufficient energy to fly, mate and disperse the population to the next available decaying wood habitat.

The information below has been taken from a paper, which was published in British Wildlife in December 1999, called 'The invertebrates of Britain's wood pastures' written by Keith Alexander. In this paper Keith Alexander highlights the importance of decaying wood ecosystems to a diverse range of rare invertebrates, and the need to conserve their ancient habitat.

Nectar provides an energy-rich food, which can rapidly be assimilated and used to fuel flight, and pollen is a protein-rich food, which aids egg production. Flowering trees and shrubs are by far the most important sources, although other plants can also be very popular, notably Hogweed (*Heracleum sphondylium*) and Wild Angelica (*Angelica sylvestris)*. Hawthorn (*Crataegus monogyna)* provides the classic insect blossom, partly because it flowers in late spring when so many wood-decay insects are in the adult stage.

Nectar sources are important throughout the year, and the presence of the following species can be particularly beneficial.

- Holly (*Ilex aquifolium)*
- Crab Apple (*Mallus sylvestris)*
- Rowan (*Sorbus aucuparia)*
- Guelder-rose (*Vibernum opulus)*
- Wild Privet (*Ligustrum vulgare)*
- Wild Pear (*Pyrus pyraster)*
- Bramble (*Rubusfruticosus)*

These are just some of the more obvious species, but even Elder (*Sambucus nigra)*, with its poor reputation amongst entomologists, can be important for a select few species. For instance Elder is particularly favoured by the nationally scarce beetle (*Aderus oculatus)*, which develops in the decaying heart wood of oaks.

we perceive to be desirable with consideration to the management objectives of tree longevity and safety. However, ideas are evolving and a new term has been suggested by Paul Muir, of Treework Environmental Consultancy, that of 'retrenchment pruning', where the idea is to mimic the natural processes, encouraging a progression to a more sustainable structural form which considers the tree's physiological systems.

SUMMARY

The recognition that decaying wood habitat is a dynamic system of processes, which are a constantly evolving part of the arboreal ecosystem, is an important step towards its successful and sustainable management. It is also a demonstration of how the terms we use can influence our perception of the management objectives. Our role as arboricultural managers is one of careful guidance, to encourage and support natural processes, not to impose a physical form or state to fit our ideas of what is right.

We must strengthen our recognition for the fact that trees live within a different time frame to us mere humans. Their living processes are almost the ultimate in sustainability, to a point where, in the right circumstances, they have the capability to attain immortality. A paper was recently published in the Arboricultural Journal (Vol.26 No.3 Sep 2002 pp 213-238) by Neville Fay called 'Environmental arboriculture, tree ecology and veteran tree management', which stresses the management impacts of tree life spans measured in hundreds of years, and in some cases millennia. The implications of this are that the component parts of arboreal ecosystems can undergo cyclic fluctuations, which are measured in centuries.

The knowledge we use to develop tree management strategies, must have a depth of understanding that considers the tree's interrelationship with its environment and other organisms, included within a broad arboreal ecosystem. It is also essential to have an appreciation of the ageing process of trees and be aware that different management methods are needed, which are sustainable in the context of tree longevity.

CONCLUSION

If sustainable conservation is to work we need to move away from management strategies that concentrate on individual species, and embrace an ecosystem based approach. This is needed, not least, because it would help define some common objectives for the various wildlife conservation organisations. As we are now, each group has it's own goals and it is common knowledge that these conflict and are in many cases counterproductive, often cancelling one another out.

These are not new ideas, and there is an evolution towards ecosystem based management, with the concepts of ecosystem health and sustainability becoming strategic goals. However, it has taken us decades to get to this stage.

In conclusion it is clear that we need to think more carefully about the far-reaching effects and repercussions of our management decisions. This is hardly a new concept. Aldo Leopold proposed the following metaphor in an essay he wrote in 1949, called 'The Land-Health Concept and Conservation', which was published for the first time in a book called 'For the Health of the Land' in 1999.

The biotic clock may continue ticking if we:

1 Cease throwing away the parts.
2 Handle it gently.
3 Recognise that its importance transcends economics.
4 Don't let too many people tinker with it.

A re-erected Noctule bat roost at Hillingdon Patty Briggs

ANNEXE 2: HOW MUCH DECAYING WOOD AND WHERE?

An alliterative phrase adopted and promoted by Ted Green, is 'sustainable, successional, structural, supply of decaying wood', which sums it up neatly, but the implications may not be immediately obvious. However, it is clear that an arboreal ecosystem needs just that, if it is to support a diversity of organisms, and maintain ecological integrity. It is a description of the level that needs to be achieved if our creation, management and maintenance of decaying wood habitat is going to be anywhere near natural.

It is however, difficult to accomplish something even near a natural state, when we have no real idea what that might be like, since it infers the absence of human manipulation. We therefore face a challenge where the ultimate goal is unobtainable, so it is important that our aims are based on viable benchmarks. This is exactly what Jill Butler, Fred Currie and Keith Kirby have attempted to do with a paper called 'There's life in that dead wood - so leave some in your woodland' published in the Quarterly Journal of Forestry April 2002 (Vol.96 No.2 131-137).

The arboreal ecosystem relies on a sustainable supply of decaying wood, because the process provides a range of habitat types, which are utilised by a large number of different organisms, which are in turn responsible for a particular stage of decomposition. It is therefore an absolute necessity that there is enough decaying wood around to provide the range of conditions needed to support these organisms.

To achieve a sustainable supply of decaying wood, with out the necessity to keep importing new material to a site, we have to encourage a successional ecosystem. It is fundamental part of managing decaying wood habitat, that there is the diversity of niches, available at any one time, to support the full range of organisms associated with decaying wood.

Finally, we have to appreciate that arboreal ecosystems have multiple levels, and the creation, management or maintenance of this habitat needs to work in a structural way. It is not sufficient to have a sustainable, successional, supply of decaying wood on the ground, in piles of logs or brash wood. There needs to be decaying wood in all of the following places:

- dead limbs on living trees;
- rot holes in standing trees;
- dead bark on standing trees;
- fallen trunks and large branches;
- dead tree stumps and old coppice stools;
- decaying wood in water causes;
- decay columns in trunks and main branches;
- sap runs from decaying cavities or recent wounds;
- standing dead trees;
- fallen small branches and twigs;
- exposed root plates of wind blown trees;

and it is important to have all of the above in a diversity of locations, and conditions, in full sun, dense shade and various stages in between.

Therefore our management goal is a Sustainable, Successional, Structural, Supply of Decaying Wood.

CONSERVING & CREATING DECAYING WOOD HABITATS
A PRACTICAL GUIDE FOR ARBORISTS

Andrew Cowan's article above highlights the important role decaying wood has in providing habitat for a large variety of species. He discusses how organisations like the Forestry Commission and the Forestry Stewardship Council now recognise that there is a lack of decaying wood habitat within our woodlands which is needed to sustain many species of conservation importance. He also suggests that this is mainly due to past arboricultural and silvicultural practices that focussed on cleaning out deadwood from woodlands and trees to protect the timber resource and reduce the potential hazards in amenity trees. These practices have been driven by the perception that deadwood in trees is seen as a harbourer of disease that could result in an increase in an owner's liability.

A recent attempt of coronet cutting at Windsor during retrenchment pruning to an Oak tree at Windsor which was showing signs of severe basal decay. The use of a large hydraulic man platform is ideal in these circumstances. Photograph Mark Robinson 2003.

The importance of leaving and making provision for decaying wood is becoming more widely accepted. Conservation bodies such as the Ancient Tree Forum, English Nature and the JNCC have widely publicised the need to maintain the biodiversity associated with deadwood. There are an increasing number of arborists realising the potential in providing decaying wood habitat in a safe and controlled manner for the benefit of wildlife, thus providing an additional service to customers. Providing this honest and informed service can only serve to increase public respect, interest and hopefully job referrals.

During construction of a dead wood pile for invertebrates as experimented with and described by Maurice Waterhouse of the RSPB. Photograph by Mary Robinson 2002

COMPENSATION

There have been circumstances in the past couple of years where developers have been required, as part of the development plan, to provide decaying wood habitats as compensation for removal of woodland. The need for removal of a swathe of Kentish woodland for the new channel tunnel rail link (CTRL) initiated the translocation of more than thirty trees to adjacent Woodland Trust woods. Twelve of these trees were re-erected, while the remainder were left on the woodland floor as fallen decaying timber.

A mature Oak tree in Hillingdon, London, was an example where concerns of the health and structural stability of an Oak tree resulted in the correct prescription of a crown reduction. However, the reduction in height was not straight forward as bats were found in a large limb. Under the CRoW Act (Conservation and Rights of Way Act 2000), the limb is considered a legally protected site for the bats. The branch contained a Noctule bat roost in an old woodpecker hole. After consultation with English Nature and the local bat group it was decided to lower the limb carefully to the ground as part of the tree reduction process and then re-attach the limb to the tree once reduction work had taken place. This was carried out successfully and as a result the Noctule bats returned to the roost the following summer.

METHODS AND TECHNIQUES

For many years arborists have been experimenting with different techniques of preserving and making decaying wood habitats. 'Monoliths', or should it be 'Monodendrons', have been a simple method of making a dead or dying tree safe by removing all it's branches and reducing its height. However, the habitat can be improved quite easily by the addition of boring cuts into the tree to make crevices for bats, or whole sections of the trunk can be hollowed out to create cavities, without severely reducing the structural stability of the tree.

Stacks of logs have been known for a long time to provide a habitat for a limited range of invertebrates. Maurice Waterhouse, site manager for the RSPB reserve at Coombes Valley, has conducted studies of the effectiveness of log piles at his reserve and has arrived at a design which will benefit almost all invertebrates associated with decaying wood. The piles were modified to provide a cavity, enclosed at either end and on the top. The cavity has been designed to replicate the conditions that enable the growth of fungi and promote the decaying process. For those who are interested in this technique, English Nature has produced an information sheet in association with the RSPB called 'deadwood piles for invertebrate conservation'.

Veteranisation and retrenchment pruning are methods that are regularly used at Windsor Great Park, as well as other ancient tree sites, where it is thought necessary to undertake remedial work on trees that are showing signs of imminent structural failure and possible premature death, for example with ancient lapsed pollards or with large canopied trees with substantial stem defects. Instead of always target pruning, coronet cuts are sometime used with the aim of leaving the tree looking as natural as possible and providing a habitat for decaying wood organisms. The aim of coronet cutting is to leave a stump when removing a branch. The stump is then cut using a chainsaw to resemble a tear or a snapped of branch as opposed to a pruning cut, trying to mimic the 'natural' results seen following storm damage. This has the added benefit of stimulating dormant buds to break, which will generate a new sub canopy of light harvesting, energy producing leaves. It can be very difficult to obtain the desired effect and overall impression of natural retrenchment, especially for an arborist who is used to natural target pruning when undertaking crown reductions.

Ring-barking of trees has also been carried out at various locations throughout the country, with the intention of killing the tree to provide standing dead wood. Whether this actually provides the right type of decaying wood for invertebrates and other species is unknown, further studies need to be carried out on these trees in the future. Initial observation suggests that the wood becomes seasoned producing a type of 'deadwood' rather than allowing the varying habitat that comes with the internal decay process that is produced by fungi. Also you have to question whether it is necessary to kill trees to increase the amount of decaying wood habitat and what will the health and safety implications be of these trees once the branches start to fall off.

Another method of promoting decaying wood habitat is the re-erection of trees, or more precisely butts and length's of timber from trees. This technique has been used with varying success at various locations around the country. Roy Finch was one of the earlier pioneers in Gloucester, where he used a crane to lift long lengths of timber up against a host tree. The timber was then secured to the host tree using ratchet straps. At Roundhay Park in Leeds limbs off a tree were re-erected when the tree that had been pruned was found to contain bats. Unfortunately in this case the bats didn't return but were replaced by a family of Starlings. The limb is still in place today and is providing habitat for certain deadwood species.

Other methods of re-erecting timber have included using winches with pulley blocks in the host tree. The winches could be powered or hand operated depending on access to the site or, as in the case at Windsor, where the site is a non-intervention woodland and the use of heavy plant or machinery is not permitted.

HEALTH AND SAFETY

Most of the methods mentioned above could have associated hazards both during and after construction. Health and safety issues associated with trying to promote decaying wood habitat must be addressed. Initially, the position in which you intend to create the decaying wood habitat requires a certain amount of thought. As with surveying trees the target should be assessed and the level of risk from the hazard kept to a minimum. There may be certain areas where, for example, re-erection methods would not be suitable.

Secondly the method you intend to use must be planned and in the case of re-erecting, calculations need to be made before the operation is undertaken to estimate the correct weights of wood to be lifted and ropes to be used. Arborists are required, under the Lifting Operations and Lifting Equipment Regulations (LOLER), to use equipment with an adequate Safe Working Load (SWL) and use this correct equipment for the purpose for which it is intended.

It also states that any anchor point must be checked and must be capable of safely accommodating any forces it has placed upon it. In one case a branch snapped that was used as the anchor for a pulley block during the erecting of a piece of wood. The branch appeared on visual inspection to be structurally sound, but internal decay was present that only became evident after failure. A method of ensuring an adequate anchor could be to use the main stem instead of only relying on a branch.

RE-INSPECTION

The decaying wood must be put into a regular inspection cycle once initiated, whether it is a

A request from Ted Green at Windsor, was to move a 4M piece of decayed Beech containing a rare fungi Hercium erinaceum hedgehog fungus a distance from where it originally fell and re-erect it up against another Beech in an attempt to inoculate the host tree and continue the existence of the fungus. This was secured using a wire cable and a nylon webbing strap around both the tree and the piece of wood. Photograph Mark Robinson 2002

monolith or a re-erection. Due to the decaying process, changes in moisture content will cause the wood to shrink or crack, it could become unstable and cause a potential hazard. It may be necessary to reduce the size of the piece of decaying wood or to re-erect it. Cables, strapping and attachments should be inspected at regular intervals, a good guide is found in BS3998: 1989 the British Standard Recommendations for Tree Work, which recommends every 3 years for bracing in trees. At Windsor we inspect our fixings annually.

EXPERIMENTS

Like most experiments conserving and making provision for decaying wood is a matter of evolution. Whether all the methods will succeed in their goal will only be known in the years to come. As Andrew Cowan mentioned in his article, "it has taken years for us to be in the position we are today, with the lack of decaying wood habitat, so it will take as long or even longer to return to a sustainable level."

Do not shy away from trying something new, experimenting with different techniques is essential, but it is also important to learn from mistakes. For example the method of re-erecting wood at Ashenbank in Kent was done using large excavators, this is noticeable on site and makes you wonder to

Mark Robinson winching a section of beech trunk into position at Windsor Great Park. Photograph by Kevin Frediani 2001

what extent the ground around the remaining trees has been compacted and what the long term effects will be to the remaining trees. At the same site securing wires are starting to bite into the host trees and bulldog clips have come loose. It must be pointed out though that the work at Ashenbank was not necessarily carried out by arborists as it formed part of a large engineering project.

Merrist Wood college have undertaken re-erecting experiments at Windsor and at the college. The majority of these have been a success and helped in the development and advancement of resurrection techniques.

One re-erecting experiment that the college had carried out resulted in a piece of re-erected wood slipping from it's original position which threatened to tourniquet the host tree or slip out of its securing cable if it was not rectified. Anyone attempting to use these techniques should note that the positioning of the wood against the host tree is of vital importance to ensure maximum stability, as is the need to support the piece of wood from falling. Note, it is probably not a good idea to suspend it in the tree but only to support it.

WINDSOR GREAT PARK

So far during 20 months working at Windsor as the chargehand arborist I have re-erected three large pieces of wood, under the guidance of Ted Green and Kevin Frediani, and re-secured other pieces of decaying wood that Ted has done in previous years. All the large pieces of wood were re-erected using a 'Tirfor' hand winch and pulley blocks in the host tree. Different methods have been used to secure the pieces of wood.

One method we adopted which seemed to aid the stability of the re-erected trunk was to cut a piece off the base at 45 degrees so the suspended trunk could sit flush with the tree. It was also thought beneficial to sit the suspended section on a ring of wood that would slow down the decaying process and help maintain the stability of the re-erected trunk.

We are presently constructing a deadwood pile, using the techniques experimented with by Maurice Waterhouse, so time will tell how successful that is. Also as part of our on-going tree management system we regularly make safe our ageing tree stock by employing the retrenchment pruning technique and where practicable use coronet cuts as an alternative to natural target pruning.

Any suggestions or experiences of any of the above mentioned methods of decaying wood preservation would be welcome. Contact Mark Robinson chargehand Arborist Windsor Great Park mrarboriculture@tiscali.co.uk

Mark Robinson 2003

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Examples of some of the early re-erections of wood undertaken by Ted Green at Windsor Great Park, fifteen years ago. The strapping has been updated recently by Mark Robinson.

VETERAN TREES AND VETERANISATION

Taken from the English Nature publication 'Veteran Trees, A Guide to risk and Responsibility' a question asked was, "what is a veteran tree?" - When a tree trunk is seen in cross section, a series of concentric rings are visible, which comprise of annual increments of new wood. Up to full maturity and under favourable conditions, the cross sectional area of individual rings tend to increase year by year; when this area begins to decrease consistently, the tree is at the veteran stage. This stage can be the longest period in the life of some tree species. A veteran tree is usually old having survived longer in relation to others of the same species.

During the ageing process and through the activity of wood digesting organisms, the tree progressively develops features such as hollowing, decaying wood and water pools. The tree is gradually transformed into a complex of habitats with often unique combinations of niches for many species, established sometimes over many centuries. The natural tendency to lose branches, to hollow and decay may initiate an adaptive growth process in the tree to compensate for potential weaknesses in the wood strength which may appear as a localised deformation i.e. a change in the shape of the trunk or branch.

To provide continuity of specialised saproxylic habitats found only in veteran trees, the concept 'Veteranisation' seeks to replicate over a relatively short period of time the morphological changes that occur during the often considerable life of a veteran tree.

For further information you may wish to visit the arborecology website: www.arborecology.co.uk

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