SCOTTISH WOODLAND HISTORY DISCUSSION GROUP

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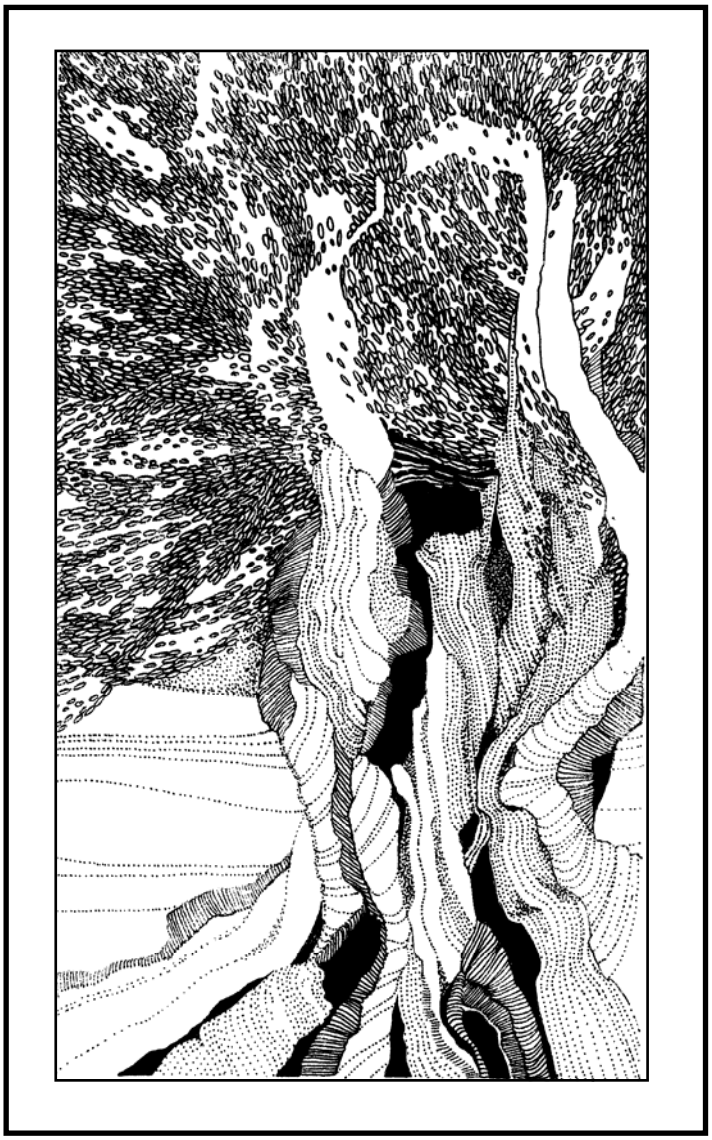

THIRD MEETING — 22 AUGUST 1998

SCOTTISH NATURAL HERITAGE COUNTRYSIDE CENTRE BATTLEBY, PERTH

ACKNOWLEDGEMENT

The Scottish Woodland History Discussion Group is indebted to Scottish Natural Heritage for their sponsorship and help in making the third meeting of the Group a success:

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We are also indebted to Argyll Publishing for kind permission to utilise the drawing by Irene MacKenzie of the oak tree which appears on page 173 in Hugh Fife, *Warriors and Guardians: Native Highland Trees*, shown on the front cover of this compilation of papers.

CONTRIBUTORS

Colin Edwards
Forest Research (An agency of the Forestry Commission)
Northern Research Station
Roslin
Midlothian EH25 9SY

Syd House
Forestry Commission, The Forestry Authority
Perth Conservancy
14 Gowans Terrace
Perth PH1 5AN.

Peter Quelch
Forestry Commission Native Woodland Adviser
Whitegates
Lochgilphead
Argyll PA31 8RS

Tony Robinson
English Nature
Roughmoor
Bishops Hull
Taunton
Somerset TA1 5AA

Neil Sanderson
Botanical Survey and Assessment
52 Cygnus Gardens
Dibden
Hythe
Hants SO45 5UH

Mike Smith
Borders Forest Trust
Monteviot Nurseries
Ancrum
Jedburgh TD8 6TU

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INTRODUCTION

Chris Smout

ANCIENT TREES IN SCOTLAND AND THEIR PROTECTION:

Report on a meeting of the Scottish Woodland History Discussion Group

About 50 members of the SWHDG gathered at the SNH Countryside Centre at Battleby to consider ancient trees. We had six presentations and a very lively discussion in the morning, followed in the afternoon by a memorable outing to the old oakwood at Methven, expertly led by Ros Smith of SNH and Jack Stevenson of RCAHMS. The day was so profitable because we were a good mix: foresters, historians, conservationists, arboriculturalists, archaeologists, dendrochronologists, ecologists and civil servants. Everyone spoke their mind and shared their knowledge.

Peter Quelch, appropriately, led off the first presentation, since the topic was chosen at his instigation. His presentation emphasised the ubiquitous character of ancient trees in the countryside, often pollarded or former coppice, sometimes in parks, sometimes alongside roads and old tracks, sometimes in wood pasture. He emphasised the wealth and value attached in Sweden to such cultural landscapes with pollards and old wood pasture and asked if we were doing enough to identify or protect our resource.

Neil Sanderson followed, taking up the theme of wood pasture and comparing the similarity of his experience in the New Forest with what he had found on the Woodland Trust property at Glen Finglas. The value and extent of ancient trees in the uplands was indicated by the distribution of specialist lichens, for some of which north-west Scotland was much richer than England. In other countries they would be considered indicators of "old growth forest".

Syd House talked about a completely different kind of remarkable tree, the historic North American conifers grown in Perthshire in the nineteenth century from the original seeds sent back by the local pioneer collectors, Menzies, Douglas and Jeffrey. Some of these trees are of an age and size now scarce in America. The biggest Sitka spruce in Perthshire are now within a few feet of being the tallest in the world.

After the first break for discussion, the programme was continued by:

Colin Edward's report on the age of Caledonian Scots pine in the native woodlands, with the oldest tree over 500 years old. Age is impossible to detect except by coring — a tree in Glen Affric only 16 years old was the same girth as one well over two centuries old. The antiquity of some of the older stands inevitably gave rise to concern over the supply and viability of their seeds.

Mike Smith explained the work of the Borders Forest Trust in identifying old trees in the Borders, following the lead of the Ancient Tree Forum in England in trying to establish a register of old trees by surveys and record cards that interested members of the public can fill in.

Finally:

Tony Robinson came from Bristol to explain the work of English Nature's Veteran Tree Initiative, set up in 1996 to help to identify the resource in the south, and to co-ordinate advice on the management and protection of old trees. It has proved so popular and successful that funding has been extended for a further period to the year 2000.

The discussion focussed first on definitions. What are "ancient trees"? It became clear that we should perhaps be talking about "ancient and remarkable trees", because they fall into several distinct categories:

- Single identifiable trees, clearly of great age, often named and with traditions attached to them, like the Capon Tree (an oak) near Jedburgh, the Birnam Oak by Dunkeld, or the Fortingal Yew in Glen Lyon.

- Trees in Lowland woods or parks, like the medieval oaks at Cadzow or Dalkeith, or the rather younger oaks (150-200 years old) that we visited at Methven.

- Tree in Highland woods or wood pasture of similar age, such as occur in Caledonian pinewoods and (especially as hazel, birch and alder) in Glen Finglas, Loch Lomondside and elsewhere.

- Policy and wayside planting of the seventeenth to earlier nineteenth centuries, often oak or ash, but also sweet chestnut, lime, beech and sycamore.

- Specimen trees and avenues originating from seed brought from North and South America in the nineteenth century, now of great size and often associated with the original Scottish plant collectors.

Ancient trees may appear to the tidy-minded to be of little economic value — "scrub" on a hillside, "diseased timber" in a wood (because they often have a significant number of holes and dead branches), "dangerous trees" beside a road or a path. Are they not, as one participant put it, often a bit like Victorian factory chimneys — impressive, unstable and best demolished? There must be a health-and-safety aspect to their management, of course, perhaps better addressed by fencing than felling. But there is far more to veteran trees than senility.

- **Cultural:** people are moved by the beauty, size, antiquity and associations of ancient trees. Who does not feel a connection with past generations that reached beyond our own mortality in the presence of a centuries-old oak or a granny pine? Who cannot but be astonished to behold a towering Douglas fir grown from the very seed David Douglas collected in North America before Queen Victoria came to the throne? Even in hard economic terms, the tourist potential of veteran trees is considerable.

- **Landscape:** the texture and character of the Scottish countryside is immensely enhanced by the presence of ancient and remarkable trees, whether it is an old pollarded ash by a country road, a natural wood of Scots pine on a hillside, or a policy planting of beech or lime two centuries old. A countryside without ancient trees seems brash and characterless, quite literally one without any roots in the past.

- **Nature conservation:** the value of dead wood for fungi and rare insects is outstanding, and they also particularly harbour bats, woodpeckers, tree-creepers, tits and every kind of woodland bird. The old wood pasture at Glen Finglas is (at the present state of knowledge) the fifth-best wood for lichens in Scotland.

Why have ancient trees in Scotland not had the recognition they need? It seems to be partly because certain types have not been easy to identify, such as the old Highland wood pastures, and partly because nature conservationists have in the past exhibited a purist's dislike of introduced species and policy woodlands. Now it is being realised how ageing beech, lime, sycamore and alien conifers can themselves provide a critical network of ecological refuges for a wide range of valued and rare native species of plants, bryophytes, and vertebrate and invertebrate animals.

For me, there were four outstanding lessons of the day:

- **Firstly**, the UK has 80 per cent of the ancient trees in Europe, so a special responsibility for their well-being.

- **Secondly**, contrary to common assumptions, ancient trees are probably at least as widespread and important in the Scottish countryside as they are in England.

- **Thirdly**, we need to know more systematically where they are, and how to help their owners protect them and prolong their life.

- **Fourthly** (an important point raised by dendrochronologists), we need a better mechanism for recovering and conserving wood cores and other ring-count specimens, as a scientific resource for dating buildings and, indeed, other ancient tree remains.

And the next step? Surely it is to work with others to encourage work on inventories, appropriate advice and protection, and ecological and dendrochronological research. Scottish Natural Heritage, the Forestry Authority and Historic Scotland seem appropriate public-sector partners. Among the voluntary bodies, the Garden History Society through Christopher Dingwall has already expressed a wish to be involved, as I am sure others will be, once we have charted a way ahead more carefully by further discussion with others.

The Scottish Woodland History Discussion Group is organised jointly by the Institute for Environmental History at the University of St. Andrews and the Department of History at the University of Stirling. It has an annual meeting on a different theme each year, and produces SWHDG *notes* as a record of these occasions. Membership is open to anyone, at a fee of £12 per year. For those wishing to join, please contact Mrs. Margaret Richards at the Institute for Environmental History, University of St. Andrews, St. John's House, South Street, St. Andrews, Fife KY16 9QW.

ANCIENT OR VETERAN TREES IN SCOTLAND

P R Quelch

During the three years since the inaugural conference of the Scottish Woodland History Discussion Group, interest in ancient or veteran trees has increased enormously. Our sister group in England and Wales, the Ancient Tree Forum, along with English Nature's Veteran Trees Initiative, have promoted the care and conservation of veteran trees, and a number of useful handbooks and publications are now available (e.g. Read, 1996).

In Scotland, a number of projects are contributing to our understanding of old trees, and just a selection will be presented today at Battleby. The SWHDG provides a forum for information transfer between field researchers and historians.

SCIENTIFIC VALUES

There are two mains sets of values of ancient trees: scientific and cultural. Scientific reasons include the origin of the trees themselves and the genetic makeup of such long surviving organisms. Their tree-ring sequence as studied in the science of dendrochronology faithfully records growth response to centuries of climate change.

Many specialists regard ancient trees as habitats for their species group, be it bryophytes, lichens, or other epiphytes growing on the varied niches afforded by the veteran trees. The slowly decaying trees provide a unique habitat for a range of saproxylic invertebrates and fungi. Even after the death of the tree, the rotting hulk provides a habitat for many more years. Rot holes provide homes to birds, bats and small mammals.

Many of the more significant and rare organisms living in veteran trees are of late successional species, which cannot colonise and thrive on younger trees. Indeed the lichen flora can be used to place an ancient woodland site on an Index of Ecological Continuity (Rose, 1993) which is extremely useful in terms of woodland archaeology. It gives direct evidence of the continuity of ancient trees in the land-use history of that site.

CULTURAL VALUES

Apart from these scientific habitat values of veteran trees, we should not underestimate their cultural and aesthetic values. The love of old trees is widespread in Britain and recent work in Wales found that people seemed to equate old trees with nature itself. Being among veteran trees helped people relax and unwind. Recent books and television series on character trees and woodland have been very popular.

LOCATION

Where do we find old trees — are they scattered at random over the landscape? No, I think they fit into a pattern of location and type. A broad classification of ancient tree location in Scotland is suggested below:

1. **Individual Trees**

   Usually associated with people and settlements; includes named and famous trees; often appreciated and sometimes protected.

   — Churches, Abbeys

   — Castles, Mansions

— Farmhouses, Cottages

— Villages and Towns

2. **Roads/Tracks/Field Edges**

Growing beside old tracks, especially at nodal points like crossroads, gateways, etc. Many such trees have been pollarded in the past, presumably to prevent overhanging and shading of the track and the arable crops.

3. **Parks and Designed Landscapes**

Trees were planted for landscape effect, shelter timber and many other benefits when the 18th and 19th century landscapes were laid out. Large numbers of trees now 200 years old will become the veteran trees of the future. Landscapes also incorporated any existing old trees, many of which were of natural origin. These are now veterans of over 300 years and pre-date the parks and improved landscapes in which they sit.

4. **Lowland Wood Pasture**

The best collections of veteran oaks are usually based on medieval deer and cattle parks, which themselves were probably created by enclosing natural origin woodland with perhaps some subsequent planting. Heavy grazing has continued and typically these sites lack any younger tree generations.

Occasionally the old open grown trees formed in lowland wood pasture can be found within younger woodland established around them.

Pollarding was frequent in wood pastures, but not always in Scottish examples. Widely spaced open grown trees are the main feature of lowland wood pasture —these may or may not have been pollarded by man for fuelwood, leaf fodder etc in the past.

5. **Ancient Woodland**

Of course some ancient trees grow in ancient enclosed woodlands, but not so frequently as in the other situations. Trees in working woodland are normally harvested before they grow old and decline in vigour. However they do survive as:

— old-growth enclosed high forest (actually very little exists)

— standards in coppice with standards

— boundary pollards and stub trees

— coppice stools (ancient stools, even through regrowth stems are relatively young)

6. **Upland Pasture Woodland**

A large number of ancient trees are found within grazed woodland of very natural origin, situated outside the cultivated and improved farmland. Upland pasture woodlands of unenclosed hill pasture with self-sown trees, can be very open and savannah-like, but may also contain dense stands of tall straight trees. Historically, much of the Scottish natural forest may have been of this structure, and provided man with timber trees, fuelwood, hunting and domestic grazing.

‘Pasture woodland’ in this case is a more appropriate term than ‘Wood pasture’ (Sanderson, 1998) as the ground flora is semi-natural and contains woodland species, whereas the ground flora of lowland wood pasture is often improved grassland.

The remaining veteran trees in surviving remnants of upland pasture woodland (which includes many of the ancient pinewoods), may be the most natural in origin of any in the Scottish landscape today.

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VETERAN TREES IN HIGHLAND PASTURE WOODLANDS

Neil Sanderson

INTRODUCTION

The following paper covers the closely related biological and cultural aspects of old trees and biodiversity conservation in Highland woodlands. I would not profess to be an expert on the Highlands and their woodlands, my main work recently has been in the New Forest, but I have been involved in a very interesting area in the Trossachs which has stimulated my interest in the conservation of woodland in the Highlands. The following thoughts, therefore are the views of an outsider intended to provoke discussion on these issues.

VETERAN TREES

Veteran trees are essentially trees beyond there normal economic life and can range from the usual image of huge old Oaks to old Hazel bushes, the latter often easily overlooked and unappreciated.

Veteran trees include post mature trees, which typically have reached their full height but have die back and heart rot present and ancient trees which have extensive die back and large scale hollowing (Harding & Alexander, 1992). Both can be important for biodiversity and it is important not to concentrate on the latter too much.

They typically support many species of epiphytes and invertebrates which are confined to specialist niches only well developed on veteran trees. When such species are slow colonists they can become seriously compromised and often exterminated by efficient forms of woodland exploitation which leave few or no old trees (Rose, 1992). Such species can often form a significant proportion of woodland biodiversity (Harding & Rose, 1986).

OLD GROWTH

In considering the biodiversity conservation issues raised by such species it is important to realise that they are well adapted to the environments in which they evolved and they are, and have to be, good colonists of old trees when given time and the presence of sufficient numbers of old trees, as could be expected in natural woods. A vital factor in the survival of these specialist species is the presence of populations of old trees. Many have exceptional habitat specificity and can be confined to a tiny proportion of veteran trees even in habitats with abundant old trees.

Woods where old and dying trees are abundant in native woodlands are described as ‘old growth’ in most of the world. Throughout the boreal and temperate regions old growth stands are recognised as a vital habitat in the conservation of biodiversity. Such old growth stands are everywhere in decline and are a major world wide nature conservation issue. It is not a term much used in Britain but George Peterken’s book *Natural Woodland* (Peterken, 1996) will I hope encouraged the use of the term.

DEFINITION AND DEVELOPMENT

Fully developed old growth can be briefly defined as a native woodland in which veteran trees, including dead and dying trees, are a significant presence i.e. woods in which trees are living out their natural life spans. In most areas old growth features start becoming well developed in stands of over 200 years old (Peterken, 1996). This will vary with the ageing process of the main trees involved, for instance old growth Hazel and Downy Birch woods may have developed somewhat earlier than this but possibly not by much.

Studying datable stands can give an indication of the speed and degree of recovery from clear felling or total destruction of stands by groups such as lichens and invertebrates. Where this has been done across the northern hemisphere typically near complete recovery is found in stands of between

200-300 years old (Gustafsson *et al*, 1992, Ohlson 1997, Rose, 1992, Rosentreter, 1995, Sanderson, 1996 & 1998, Selva, 1994). There are exceptions in specialised habitats such as the lichens of old dry bark on Oak in England (Sanderson, 1998a) and the lichen flora of ancient conifers in western North American temperate rain forests, both taking 300-400 years (Goward, 1994).

Observations in the cultural landscape of the New Forest also show old growth stands reduced to parkland like stands recovering much more rapidly when regeneration restores woodland conditions but as little as 2.5km of fragmentation seriously compromising recolonisation (Sanderson, 1998a).

An important feature of colonisation by veteran tree specialist lichens is that they are not usually confined to the oldest trees in a stand, although the presence of old trees is usually the feature most strongly associated with lichen rich stands (Gustafsson *et al*, 1992 & Sanderson, 1997). Old trees are an indication of the stand continuity required by species which will colonise trees a lot younger than the age of the stand.

Scotland does not appear to be an exception, the richest woods in epiphytic lichens are normally functionally old growth (Gilbert, 1984) but there are many complexities which I look forward to being elucidated by those with much more experience of the area than me. The temperate rain forests of the west Highlands present an especially intriguing example. Here species confined to old growth elsewhere are confusingly rapid colonisers but even here many of the richest sites are old growth stands with many rare slow colonising species.

In a British context the importance of veteran Hazel in the Highlands can not over emphasised. An example of this is the lichen *Pyrenula occidentalis*, a frequent species on old Hazel and Rowan in the western Highlands but confined to a tiny number of sites in the rest of the UK. Possibly due to much more intensive use of Hazel in other western uplands areas.

CULTURAL ASPECTS

It is important not to confuse the term old growth with virgin woodland. Old growth can be managed, in fact vitally all surviving example across the world were effected to some extent by aboriginal management in which tree felling was a minor activity, but grazing or wild game management was fundamental. Virgin woodland is, to caricature the worst examples of the term's use, one culture's term for someone else's grazing or hunting forest.

Britain is not short of old growth woodland but there are few statistics. We know lots about where ancient sites are but have few indications of the area of old growth. Its rarity in other well wooded areas of the world, however, should emphasised: the area of old growth woodland in the New Forest alone (Flower & Tubbs, 1982) is about equal to that of the whole of northern New England and Southern New Brunswick (Selva , 1994) and a wide definition of the area of old native pine woods (Steven & Carlisle, 1959 & Goodier & Bunce, 1975) is more than double this. This in a far smaller area with lots of other unmeasured stands with old growth. Britain lacks vast areas of young growth woodland but in terms of old growth the area is internationally significant.

In Britain the confusion between old growth and virgin woodland is not possible, all our old growth woodlands are clearly a product of human management. Old growth has typically survived in multi-use systems where grazing and tree exploitation are combined with some of the best old growth found where exploitation of the trees has been fairly limited and grazing patently the main land use.

Such systems have been called pasture woodlands or wood pasture. The latter term is strictly defined as scattered trees over non-woodland vegetation by its author Oliver Rackham (Personal Communication) and I prefer the more inclusive term 'pasture woodland' as termed by Paul Harding and Francis Rose (Harding & Rose, 1986) which I define as following:

Pasture Woodland: Semi-natural woodland or parkland like stands managed by a sustainable grazing regime, using domestic stock or wild animals, which has a significant effect on the habitat's ecology and usually, but not necessarily, combined with some form of exploitation of the trees and shrubs by felling, pollarding or coppicing.

This allows the inclusion of what I describe as grazed high forest (Chatters & Sanderson, 1994) with a woodland ground flora as well as open parkland like stands. Grazed high forest typically has a relatively low and irregular stocking of trees with wide crowns frequent, the denser parts of native Pine woods have this sort of structure (Summers *et al*, 1997). In such pasture woods, in the past, the production of timber could be more significant than the small wood produced from pollards and coppicing.

For biodiversity in pasture woodlands it is important to realise that the gaps between the trees are as important as the trees. Open areas with grasslands, heaths and mires and irregular stocking and thin canopied patches provide much more habitat diversity than would be found in the classic healthy wood where young trees crowd into all gaps. Grazing at significant levels is required to maintain this structural diversity (Chatters & Sanderson, 1994 & Dennis, 1998).

Such systems are well recognised in lowland Britain. Here they are regarded as important nature conservation and cultural resources in need of conservation and have their own Habitat Action Plan.

In the uplands, in both England (Fleming, 1997 & Wolseley & O'Dare, 1989) and in the Highlands, increasing evidence is emerging that, pasture woodland was a widespread component of land use in the past which was some times sustainable and some times not, as happened in lowland England.

How are we to regard the grazed woodlands of the Highlands? Are they, or were they, pasture woodlands? If they are does this matter? If so is there nature conservation or cultural significance in this and what do we do about it?

DOCUMENTARY EVIDENCE

Much recent work has been carried out on woodland history in Scotland and the 1997 Scottish Woodland History publishes some important papers (Smout & Watson, 1997 & Watson, 1997). This indicates medieval and early modern multi-use woodland management systems of considerable sophistication. The work done, especially on the Baron Courts indicates, that these systems had much in common with English pasture woodlands. The woodland issues dealt with by the Baron Courts, and their methods of control, are remarkable similar to those of the Court of Eyre of the New Forest at the same time (Stagg, 1983 & Tubbs 1986). The Baron Courts, however, seem to have been had more real control than their English equivalents!

In general the evidence in the Highlands is one of an often tightly controlled system which attempted to maintain the woods mainly for local use including the wintering of cattle within woods as part of the transhumance cycle. Both grazing and enclosure of woods occurred but the former component appears to be much older than the latter. The value of woodland grazing to the tenants appears to have been high but difficult to quantify but it should not be ignored simple because it was not well documented. This system tended to disintegrated under the opposing pressures of population increase and the landlords need for commercial management for capital.

FIELD EVIDENCE

Here there is clearly much scope for work. Even in the most well documented pasture woodlands in England many practical issues simply did not get recorded and field work is vital.

It must be assumed that woods have co-existed with pastoralism for thousands of years in the Highlands and in the field some surviving woods do show many features which are associated with pasture woodland systems elsewhere in Europe.

A strange example is being currently examined by me at Glen Finglass in the Trossachs for the Woodland Trust (Sanderson, 1998b). It, of course, may be totally atypical. This estate includes formerly enclosed coppices around Brig o' Turk. These typical occur on uncultivatable land within the arable land of the townships and could be ancient features but on the former Perth estate confiscated after the 1745 there are also isolated coppices that may have been the work of the commissioners of confiscated estates.

Up Glen Finglass, however, are a remarkable relics of a huge unenclosed woodland up to 450m recorded as simply as part of the hill grazings in 1782. Much of this was in an ancient royal deer forest but it extended far into the hill grazings of neighbouring townships. This is shown as very open woodland in the 1860s and large areas have subsequently disappeared, probably under heavy sheep and deer grazing and the removal of fallen trees but some patches survive as an open woodland of Alder and Hazel with some Birch and Ash. This wood is notable for the hundreds of ancient low cut pollards, including very unusually Hazel pollards, some over 1.5m in girth as well as Alder, Birch and Ash pollards, many over 3.0m in girth and some over 4.0m, the largest being a birch of 4.63m girth. One Hazel was recut and found to have been last pollarded in the 1870s. Shielings type ruins are scattered along the lower edges of the woods. These are clearly very old trees which were exploited in a responsible manner on both the royal forest and what I assume was summer grazings of the townships.

Pollards in fact appear still to be scattered across the at least south and west of the Highlands with both Oak and Ash pollards found in what were probably the former cattle wintering woods in low ground. Alder pollards, however appear to show a very interesting distribution both at Glen Finglass and elsewhere. As in the New Forest pasture woodlands Alder appears to have been normally coppiced in the low lying woods, it is a bitter tasting tree and is quite grazing resistant, but seems to have been much more likely to be pollarded higher up hill sides. This again indicates a responsible accommodation of grazing and woodland exploitation, with sensitive trees such as Ash pollarded throughout their range but Alder only pollarded where it was most likely to be exposed to summer grazing.

This suggests the integrating possibility of two types of pasture woodlands in the medieval highlands which deserves further investigation:

- winter grazed woods low in the glens and near the townships and
- summer grazed woods higher on the glen sides, or further from the townships. These may have consisted of large areas of stunted trees in a savannah like landscape.

The latter appear to have lost mainly to moorland with the former being more likely to have survived or converted to coppice.

CONCLUSION

There is clearly much more for others with better access to the Highlands to do but I feel it is important to have an idea how pastoralism and woodland have co-existed in the Highlands. For example some grazed woods are current regenerating on hill farms and croft land, for example on Sleat and NW coast near Assynt (Noble, 1997), but more rarely inland on deer estates. What is the mechanism? Can something like the old transhumance system be restored and woods and grazing integrated better without too much fencing as the Scottish Agricultural College are experimenting with?

Does a past history of pasture woodland management matter? I feel it is a significant part of the cultural history and nature conservation value of the Highlands. If possible adapted pasture woodland systems should form one of the options for conservation and restoration of native woodland in the Highlands as well as timber producing young growth native woods or natural woods.

The new UK forest standard does in fact propose just such a policy:

> **Wood pasture** — where in current use (or where there is a realistic chance of restoring the grazing regime), traditional wood pasture systems should be continued and adapted to maintain their conservation and cultural values

As an ecologist I view old trees and grazing as the most vital features but low level timber production could be carried out without destroying the essential old growth features of these woodlands. I feel than adapted pasture woodland should the preferred option for restoring old growth

native woods and those developing into old growth and one which is rooted in the ancient traditions of pastoralism which are so much a part of the Highlands.

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THE FAMOUS TREES OF PERTHSHIRE: THE HERITAGE OF THE GREAT PLANT HUNTERS OF THE 19TH CENTURY AND THEIR INTRODUCTIONS

Syd House

EARLY DAYS

Perthshire holds a special place in the development of Scottish and British forestry. To many professional foresters it is known as the "cradle of the Scottish forest renaissance" chiefly on account of the work of the "Planting" Dukes of Atholl of the 18th and 19th centuries. In fact the first serious attempts at what might be called systematic forest management were undertaken in Breadalbane in the 17th century by John Campbell at Drummond Hill near Aberfeldy.

The area also has important remnants of the ancient and original woodland cover such as the Black Wood of Rannoch and Methven Wood. In the legends which adorn Perthshire's rich cultural heritage trees play a significant role. Not only in Shakespeare's images of Birnam Wood, of which we have the surviving Birnam Oak, but even before that the Fortingal Yew, reputedly amongst the oldest trees in Europe and which, according to legend, saw the footsteps of Pontius Pilate. Famous ancient oaks are dedicated to William Wallace at Methven and to Neil Gow, the famous Scots fiddler, on the banks of Tay under the branches of which were reputedly composed many of our finest Scots tunes. Gow was himself visited at Inver by Robert Burns who was in turn inspired to poetry and song by the trees of Perthshire as the "Birks o' Aberfeldy" and "The Humble Petition of Bruar Water" bare fruitful evidence.

Our native trees alone endow the County with a rich and living legacy of trees and woods intertwined with the history and cultural heritage of Scotland and beyond. But the area is doubly fortunate in being at the forefront of many of the introductions of new tree species which took place mainly in the 18th and 19th centuries. And that fortune has been compounded by the fact that so many of these trees have found an ideal home in terms of growing conditions.

CONIFERS FROM THE WORLD

The main purpose of this presentation is to highlight the importance and significance of many of these predominantly conifer introductions to the current Scottish countryside. Inevitably it's only possible to tell a short part of the story in the time available but it will serve to demonstrate what a rich legacy there is in Perthshire made all the more significant by the link to the great plant hunters of that era many of whom came from Perthshire. Men such as Archibald Menzies, son of a gardener at Castle Menzies, and David Douglas from Scone have become legends themselves and the story of their travels and introductions enhances an already fascinating story.

There is also another reason for telling the story of these trees and their introduction. In recent years conifer afforestation has been criticised in Scotland for its unsympathetic impact on the landscape of some areas and the associated loss of important semi-natural habitats. Whilst foresters have learned the lessons of landscaping and much has been done to ensure new woods are established in a harmonious way, conifers have as a result often been vilified as "exotic", "alien" or "non-native" . The recent great increase in the planting of new and management of existing native woodlands has been a wonderful new development for Scottish forestry but unfortunately with that initiative has come, in the opinion of many, a rather sterile debate of "native versus non-native" in the forestry and conservation world. To many there is a clear role for both. Perhaps then it is worthwhile re-visiting the reasons behind the introduction of these conifers so that we might better understand why they have become such a major part of the landscape and rural economy.

Finally although there are various ways of protecting woods and high amenity trees in towns and conservation sites many of these other individual trees are not protected in any way. They may be lost through neglect and ignorance as much as anything else. Raising awareness of them and their story will not only increase understanding but help protect assets which are just as important in the opinion of many to the cultural heritage as the listed buildings and ancient monuments we are proud to have.

ATHOLL

It was the initiative of the Dukes of Atholl which first earned the County the great forestry reputation which endures to the present day. Although there is some debate as to who first introduced the European larch (*Larix decidua*) to Scotland legend has it that it was a Colonel Menzies of Meggernie in Glen Lyon who first brought a few plants to Perthshire from London leaving some with his Atholl hosts at Dunkeld and Blair Castle. Descendants of these original trees survive to this day as do others at Monzie reputedly from the same source. It was from these introductions that the Atholl Dukes established the first large-scale conifer plantations anywhere. When the fourth Duke died in 1830 he left a legacy of some 9000 acres of new woodlands around the glens and straths of Atholl country comprising mainly larch, Scots pine and Norway spruce.

The mood of improvement and increasing the productivity of land was a major driving force in all land use at that time. Additionally the great voyages of discovery by Europeans had taken place by the start of the 19th century and inevitably explorers were followed by those who wanted to trade and exploit the natural resources of these new lands. This was the great age of plant hunting when collectors were despatched to collect seeds and samples of new plants which might be valuable either as crops or as ornament.

THE PERTHSHIRE LINK

Amongst the most important of these plant hunters were Menzies and Douglas. Both travelled to the Pacific North West of America an area which for reasons of latitude and climate was to prove the most fruitful of areas for plants suitable for growing in Western Europe. Menzies travelled first in the 1790's as a surgeon and naturalist on board a Royal Navy ship captained by George Vancouver. His descriptions of the tall trees and samples of the plant life were to whet the appetite of the botanists and professional plantsmen. Many discoveries were attributed to Menzies though he was able to bring back only a few seeds and specimens. Amongst these were the seeds of the Monkey puzzle (*Araucaria araucana*) from Chile now an established and favourite ornamental tree. The man chosen to follow in the footsteps of Menzies was David Douglas from Scone. Douglas's adventures and achievements are the stuff of legends. Arguably the greatest of all the plant collectors he was fortunate to travel to the area around the Columbia River in Oregon and Washington, a part of the world where the trees, predominantly conifer, have evolved to grow to enormous heights and sizes and live for a very long time, longer in some cases than any other living organism on earth. Douglas sought out seeds and specimens of trees and other plants and despatched them to his employers at the Horticultural Society in London. They caused a sensation and immediately created a clamour for more from the Society's subscribers. Douglas wrote to Professor William Hooker, his mentor at Glasgow University: "You must think I manufacture pines at my pleasure". Because of his Scottish connections many of Douglas's original introductions were planted here. His observations on the potential of such trees as Sitka spruce and Douglas fir were uncannily accurate. From his observations in the Pacific North West he said of Sitka spruce:

> "It possesses one great advantage by growing to a very large size . . . in apparently poor, thin, damp soils . . . This unquestionably has greater claims on our consideration as it would thrive in such places in Britain where even *P. sylvestris* finds no shelter. It would become a useful and large tree . . ."

After Douglas died the demand for trees amongst Scottish landowners anxious to improve their land for profit and pleasure did not diminish. More plant expeditions were sent out under the auspices of such organisations as the Oregon Association, chaired by Mr Patton of Glenalmond Estate, and succeeded in bringing back even more new introductions such as the Western hemlock (*Tsuga heterophylla*).

So Perthshire with its history and tradition at the forefront of forestry in this country and its connections with the great plant collectors was amongst the first to receive new specimens of these exciting new introductions. Examples of these originals are still growing today including Douglas firs at Scone, Dunkeld and Lynedoch. One of Douglas's original Sitka spruces, planted in the early 1830's, and probably the last original growing in Great Britain although others remain in Ireland, was cut down earlier this year in Strathardle. Other "firsts" of North West American conifers can be found in Murthly, Diana's Grove at Blair Atholl and Scone as well as at other specimen tree collections in Perthshire. Later on in the 1850's another Perthshire man , Patrick Matthews, was credited with bringing home the first seed of the giant redwood or Wellingtonia (*Sequoiadendron giganteum*) original specimens of which can be found throughout the district with one of the largest in the country at Cluny Gardens near Aberfeldy.

Introductions were of course not limited to trees from North America. Other regions which have provided new trees include the Himalayas, The Caucasus Mountains and Japan. From the latter the Japanese larch (*Larix kaempferi*) first introduced to Scotland on Atholl ground in 1883, has contributed one-half of the famous "Dunkeld" larch, the hybrid larch (*Larix x eurolepis*) identified 20 years later as a cross between the European and Japanese larches and which was first discovered growing around Dunkeld where the parents can still be seen.

"BIG TREE COUNTY"

In addition to many "firsts" Perthshire also provides such ideal growing conditions for these introductions that they are best able to realise their growing potential. Key to this is obviously the similarity to conditions in their native regions particularly in relation to soil fertility and moisture content during the short growing season. Amongst the records held are:

— the tallest tree in the British Isles, a Douglas fir at the Hermitage

— the fastest growing stand of trees, a stand of Grand fir (*Abies grandis*) at Dalguise

— the tallest Sitka spruce in the British Isles at Strathearn

as well as many others. The doyen of British Tree Recorders, the late Alan Mitchell thought, on viewing the 2 acres of Diana's Grove at Blair Atholl, that it was unlikely that any other area in the world contained such a number of different conifers of such heights and of such a volume at such a young age.

TREE HERITAGE

We are fortunate in the British Isles to be able, because of the temperate climate, to grow an extremely wide range of trees from all around the world. And because British explorers and Empire-builders were at the forefront of the great voyages of discovery many of the great plant introductions were made to this country. Many parts of Britain have a wealth of such introductions and suitable conditions in which they might grow. But arguably Perthshire with its strong history of tree and forestry innovation, the connection with the great plant hunters and the ideal growing conditions has the richest legacy of all. Many foresters, botanists and others interested in the history of our gardens and landscape understand and appreciate the wealth of these trees but to the general public they are less well-known. Yet they contain a wealth of history and interest with direct links to the plant hunters who introduced them and the lands they came from. It's time to tell that story to a wider audience.

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ANCIENT PINE WOODS: A WELL-KEPT SECRET REVEALED

SPEAKER'S NOTES

Colin Edwards

SLIDE 1

We are all aware of what a pleasant place a Native Pinewood looks like. This is Glenmore pinewood showing mature trees, saplings and young regeneration but the combination of tree sizes and ages are not always found in all the remnant pinewoods that are left in Scotland.

SLIDE 2

The reality is many woods have been exploited in the past and regeneration has been lacking over the past 100 years, for a variety of reasons. Evidence of past coverage can be seen by the location of dead stumps such as this.

SLIDE 3

Many forest managers are pinewood owners are trying to restore their current woodland areas to resemble previous woodland cover by a variety of methods. Ongoing restoration work includes expanding the woodland boundary or increasing the number of seedlings and saplings within the boundary of existing woodlands. In this example they are using fencing to keep browsers out. This will help encourage regeneration and growth of young seedlings under the existing canopy and on the margins of any existing stands. Previous attempts such as these have raised questions which our age sampling and seed assessment work have tried to answer.

SLIDE 4

During any examination of the native pinewood its been normal practice to collect standard tree data such as tree height, dbh and crown dimensions. In addition to these we have been extracting small diameter increment cores for assessment of age and growth rate.

SLIDE 5

Cores have been extracted by hand using an increment borer and the hole normally left open and allowed to fill naturally with tree resin. Cores are returned to Northern Research Station where they are prepared and measured.

SLIDE 6

Where younger seedlings and regeneration are present they are often too small to core and therefore it is not always possible to accurately age them. However their position, height and diameter are normally recorded.

SLIDE 7

Although some workers have used height or diameter as indicators of age, our work to date has shown that this is not possible with the data collected on the native pinewoods. As these two cores demonstrate trees can have the same diameter but can be separated by 200 years or more. Tree 81 is 16 years old, while tree 72 is 220 years.

SLIDE 8

The culmination of this work recently lead to one of the most important finds during our age studies in the Pinewoods. An undisclosed pinewood has a population of trees with a mean age of 350 years. Several of the older trees were over 500 years of age. The oldest individual was at least 525 years, but there is evidence to suggest that another individual could be 550 years or more. Unfortunately, this individual had woodrot that was affecting the centre of the tree and made accurate determination of age impossible. The oldest previous trees alive in Scotland were believed to be about 400 years old although on the Continent there is evidence that suggests pine can survive up to 800 years.

SLIDE 9

This table helps put into context the importance of this find. Many remnants woods are of scattered individuals at low densities. These are often at high altitudes in relatively exposed areas. All these factors work against successful pollination and hence the production of viable seed.

SLIDE 10

However, as this data indicates even relatively robust woods can suffer low or very low instances of seed production. Seed production can be very cyclic; it is not always possible to predict what the level of production will be in several years time. It then becomes difficult for managers to anticipate

SLIDE 11

In an ongoing study with NTS at Mar Lodge, trees we had previously cored and aged are being assessed for cone and seed production on a regular basis. Data collected over the past six years for four of the woods (Glen Luibeg, Glen Quioch, Dubh Ghleann and Glen Derry) has indicated Glen Luibeg is consistently producing fewer seeds than the neighbouring woods. There is no obvious explanation for this at present, further work will be required to determine the cause of this disparity. However, the implications for restoration of the wood are clear. Without a constant and adequate seed supply it will be difficult to encourage natural regeneration under the existing trees, or on the margins of the woodland boundary.

SLIDE 12

The culmination of the age study and seed germination testing work completed so far has led to the following conclusions. Tree age studies are important because of the information they provide. Finding these older trees has many implications for the management of existing pinewood and the creation of any new native pinewood in the future.

1. UNDERSTANDING LONG TERM DYNAMICS.

1.1 It indicates the existing potential pinewood upper age and suggests the potential lifespan of any existing woods. Since many of the other woods we have studied have upper ages of only 300 to 350 years, this would suggest that they have a further 200 to 250 years to live.

1.2 It suggests both spatial and temporal patterns for the creation of new native woods and the pattern for any restoration work in existing pinewoods. Seed data enables the planning of management operations to take full advantage of natural seed production patterns.

2. ASSESS IMPACTS OF CLIMATE CHANGE AND GROWTH RATES

2.1 This data may support or refute suggestion that trees are growing at a faster rate that in previous decades. The effects of climate change on the growth of our trees may be studied using long term data such as we have gathered. However, this area of study is not within the remit of silviculture branch at present.

3. TO PROVIDE ADDITIONAL INFORMATION ON PINEWOOD BIODIVERSITY

3.1 If all the present, relatively young, pinewoods were to live to the new upper age, it would mean there was little or no contribution to the deadwood component of these stands for several decades. This has many implications on the biodiversity of these pinewoods.

TABLE 1

Age range and mean tree age of three remnant (R) and three large (L) pinewoods. All ages calculated from analysis of increment cores taken at breast height (1.3m) from a sample of trees from each pinewood area (n=number of trees used for analysis of age).

Pinewood	Category	Age range (years)	Mean age (years)	Mean dbh (cm) (range cm)	Mean height (m)
Undisclosed (n= 24)	R	120 – 557	345	57 (2-100)	10.6
Glen Einig (n= 26)	R	128 – 341	195	58 (25-78)	11.1
Glen Falloch (n= 12)	R	173 – 392	272	66 (31-115)	11.8
Guisachan (n= 51)	L	36 – 269	158	66 (33-117)	17.8
Glen Loy (n= 60)	L	27 – 323	176	71 (27-107)	15.3
Mar Lodge (n= 200)	L	132 – 371	226	60 (25-130)	N/A

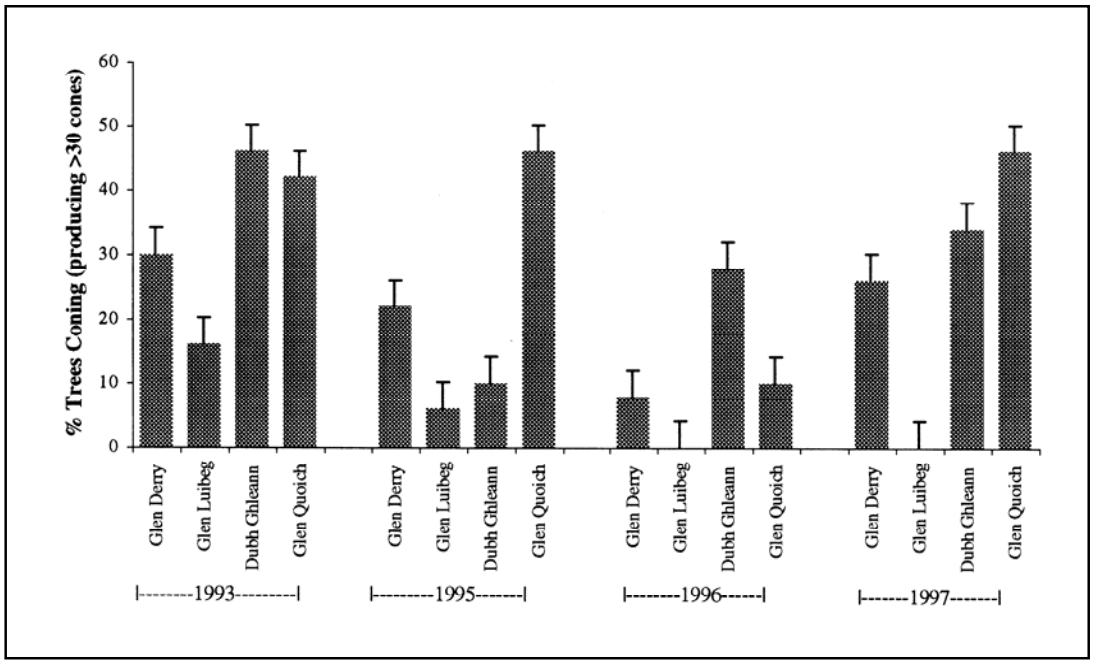
TABLE 2

Comparison of average seeds per cone and mean germination percentage for seven pinewoods. Values with same letter are not significantly different at 5% level. n= number of trees coning at time of assessment.

Pine Wood Name	Approximate Pinewood Area	Average Number Seeds per Cone	Percentage[2] Dead Seed	Percentage[2] Empty Seeds	Percentage[2] Germination of Full Seeds
Undisclosed (n=5)[1]	< 1 ha	4.48	1.70	97.40	0.90
Glen Falloch (n=20)	<1 ha	4.68[a]	4.20[a]	60.90	34.90
Glen Avon (n=12)	4 ha	N/A	6.60[d]	50.80	42.60
Glen Einig (n=28)	26 ha	7.84[bc]	3.90[bc]	53.90	42.20
Guisachan (n=31)	20 ha	8.93[b]	2.40[ab]	52.30	45.30
Glen Loy (n=12)	73 ha	4.72[ac]	3.50[abc]	56.30	40.20
Mar Lodge (n=23)	> 830 ha	9.87[b]	3.30[cd]	42.90	53.80

1. Undisclosed data not analysed, but presented for completeness.
2. Percentages were angular transformed prior to statistical analysis.

TABLE 3


% Trees Coning (producing >30 cones)
60
50
40
30
20
10
0
Glen Derry
Glen Luibeg
Dubh Ghleann
Glen Quoich
Glen Derry
Glen Luibeg
Dubh Ghleann
Glen Quoich
Glen Derry
Glen Luibeg
Dubh Ghleann
Glen Quoich
Glen Derry
Glen Luibeg
Dubh Ghleann
Glen Quoich
|--------1993---------|
|---------1995-------|
|--------1996------|
|-------1997--------|

BORDERS FOREST TRUST AND THE BORDERS VETERAN TREE INVENTORY

Mike Smith

Borders Forest Trust is a membership organisation based in the Borders that aims to work in partnership to conserve, regenerate and promote the restoration of native woodlands and other habitats as an important part of Scotland's natural environment for the benefit of all.

The Borders Forest Trust was established in January 1996 in response to sustained public enthusiasm for native woodland restoration in the Scottish Borders, focused by groups such as Borders Community Woodland and Peebles Environmental Concern, and the launch of the Millennium Forest for Scotland initiative.

The Trust acts as a regional platform for bringing together groups and individuals interested in the conservation and expansion of native woodlands to deliver aims and objectives effectively. BFT projects fall under two umbrella categories; 'Living with Trees', the ecological and social branch of activity and 'Working with Trees' the economic branch of activity. The diverse range of Borders Forest Trust projects reflects the growing recognition that native woodland is a land use which has much to offer rural Scotland, bringing tangible social, economic and environmental benefits.

With project funding from MFST, BFT has been working in partnership with SNH, Scottish Borders Council, Scottish Borders Enterprise, WWF and the Forestry Authority, as well as a range of local voluntary organisations and community groups, to establish new native and community woodlands in the Borders and to research, manage, restore and protect existing semi-natural woodlands. BFT's approach to projects is community based, involving local people in the formation and long term management of woodlands, and related education and interpretation projects, while promoting community ownership and open access to all. Borders Forest Trust community woodlands now exist near Lauder, Galashiels, Selkirk, Peebles and Melrose. Ecological projects include the restoration of floodplain forest habitats in the Ettrick valley near Selkirk, the planned restoration of 500ha of wildwood in the Carrifran valley near Moffat, the restoration of juniper populations across the region and the conservation of red squirrels.

Borders Forest Trust aims to create good models of sustainable practice, recognising the fact that native and community woodlands can be valuable economic resources as well as being an important habitat for a broad range of native plants and animals, landscape feature and recreational amenity. The recording of the woodland resource within the Borders region is thought to be an integral to this.

In parallel with BFT's woodland restoration activities is the BFT Woodschool project, a new centre for the creative use and marketing of native hardwood timber and products. This project is creating new jobs and training opportunities and will enhance the value and viability of local native woodlands. Any profits from Woodschool are covenanted to Borders Forest Trust and will be used to provide funding for new Borders Forest Trust projects as we enter the new millennium.

To raise awareness of the importance of our woodland heritage Borders Forest Trust has developed arts; education and school ground environmental improvement projects. These projects provide hands on opportunities for children and adults to learn about woodlands and their wildlife in outdoor classroom situations. This participation helps raise awareness of the nature and importance of Borders woodlands locally and helping to generate support for the continuing work of the Trust.

Veteran trees are ancient trees that have become important as a result of their social and cultural history. Their landscape value and conservation interest and are defined by these criteria. By the nature of their age they give us a tangible link with the past and their continued survival a sense of security for the future. Many legends have grown around veteran trees and their associations with historical events give them a cultural aspect. They have an important place in the wider landscape as well as their own intrinsic aesthetic. Their conservation value is a result of a number of habitats that

have developed as a result of their size and age. Many species take advantage of these ecological niches.

The Capon tree is probably the best known of the veteran trees in the Borders and is thought to be one of the few remaining trees of the old Jedforest along with the King of the Woods and some other veterans within Hag plantation. These trees are believed to be around five hundred years old, other trees in the oak plantation are in late maturity and some have started to show veteran characteristics.

These two hawthorns found at Polwarth in Berwickshire, are well documented and are first in folklore in 1470 where dancing reputedly took place round an ancient thorn to celebrate an important family wedding. This tradition of dancing round the thorns was carried on up until the 19th century, the village is now abandoned. The present hawthorns, though veterans are unlikely to be the original tree as they were described as ancient in 1470. This raises the issue of 'serial veterans' where an important tree with local folklore attached to it is replaced but with the tradition inherited by the new tree. This means that it is possible to have a sapling as a veteran tree as it has had the tradition associated from the previous tree passed on to it.

The value of the inventory is that it records these social and ecological aspects of veteran trees so that they are collated as part of our natural and cultural heritage. The primary importance will be that once veteran trees have been identified and the awareness of their significance raised then their protection should be more secure. At present in the Borders many veteran trees are being felled. Once sites are identified, recommendations on suitable management practices can be made which will further protect and enhance the Borders veteran tree resource. The inventory will be a useful tool for Lichenologists, Entemologists, Bryologists and other interested groups as it will identify potential sites for those rare species that are associated with veteran trees. It will also contribute to the national programme of information collection for the Habitat Action Plan for lowland wood pasture and parkland.

The recording of veteran trees will be carried out to the English Nature (EN) Veteran tree survey methodology but with the following modifications. For the purpose of this inventory veteran trees will be split into 2 categories:

GRADE 1:

True veterans are those trees which are undeniably veteran and show typical characteristics including trees for which anecdotal evidence indicates their longevity whether or not they show veteran characteristics. The latter are included to reflect the importance of the cultural connections of veteran trees. These trees will be surveyed to the English Nature specialist survey Level 3.

GRADE 2:

Veteran trees of the future are those trees which are not truly veteran but may have started to show some of the characteristics of veteran trees or are of an age where they are likely to start showing these characteristics. These trees will tend to have their origins in the 18th century. These trees will be surveyed to the English Nature survey Level 1,initially and to level 3 as and where necessary when time and resources become available.

An attempt has been made in this to identify key areas in the Borders in which veteran trees are likely to be found. This was achieved by contacting likely sources of information. These included Scottish Natural Heritage local and regional staff, their Design Landscape department and records kept nationally, Scottish Borders Council and Forest Authority amongst others. This information will be linked to map information on GIS at 1:50,000. From this information and preliminary investigations it is clear that there will be a great number of trees where there is no information at present. These include wayside and roadside trees and those at old churches and cemeteries as well as other areas. The compilation of this database will be an ongoing task. Initially all possible candidates for veteran tree status will be surveyed to the EN Level 1 and those trees that are thought to be of true veteran status will subsequently be surveyed to the EN Level 3. Other key areas may require further specialist survey.

Much of the preliminary work could be done in parallel with the development of a network of tree wardens in Borders Region. There are only two such schemes in Scotland at present in Glasgow and Perth and Kinross. This would lead to closer links between the local community and the various statutory and non-statutory bodies involved with environmental management, stimulating community involvement and a sense of responsibility. These volunteers would take responsibility for local trees and this would directly tie in with work on the Veteran Trees Inventory as well as broader community woodland initiatives. It is envisaged that initially the tree wardens primary responsibility will be the collation of information for the veteran tree inventory until they become more established. The advantage of this is that it will give the volunteers a common focus to be working on while the scheme finds its feet.

Areas that fit the criteria for the Habitat Action Plan for lowland wood pasture and parkland are likely to require specialist survey to conform to the monitoring and research recommendations of the draft UK Biodiversity Habitat Action Plan as these areas will require more than the EN Level 3 survey. This Habitat Action Plan is directly related to veteran trees as it is likely that a high proportion of the Borders resource of veteran trees are found within lowland wood-pastures and parkland associated with estates. The Designed Landscape department of Scottish Natural Heritage is a useful source of information for these areas and is at present updating their information on designed landscapes in Borders Region. The criteria can be summarised as Lowland wood-pastures and parklands with pre-19th century origins or later parkland, with veteran trees (pre-19th century) and parkland and wood-pasture no longer managed as such but still retaining veteran trees.

These parkland areas tend to be on estates and so consultation with landowners will be important as well as a potential source of information. As much background information on the individual tree, or the area the tree/s are found in should be sourced from estate records, old maps and local knowledge. This information is important for the understanding of the cultural importance of veteran trees, as well as giving an idea of the age of trees.

A trial of field techniques was undertaken at Torwoodlee Estate which was used as a sample site to evaluate the EN methodology and to determine the procedure and resources required for a full regional survey. This also included reference to estate records, which were used as an aid in age determination and to illustrate the social context. This will be presented on GIS ArcView 1:10,000/maps linked to original data sheets biographies and photographs of these sites.

Torwoodlee estate is north of Galashiels off the A7 at Grid reference,sheet number 73 NT 475390. The estate is owned by James Pringle, the family has lived on this site since the original tower was built in 1503. The site has had habitation for much longer and there are the remains of a fort and broch on the hill at the back of the present house. The original Tower was sacked and burnt in the 1580's and was not replaced until 1601. This Tower was in use until 1783 when it was abandoned and the present house built further down the hill. At this time work was carried out on the grounds and a walled garden created in 1790. Further works were carried out in 1860 on both the house and garden and surrounding parkland. Much of the parkland is now used as a golf course while the rest is improved grazing. There is an abandoned burial ground, which was in use from 1503 to 1532.

From discussion with the land owner and an initial site walk, trees and areas requiring EN level 1 survey and trees requiring the specialist EN level 3 survey were identified and this was further substantiated by evidence from the estate records. Much information can be gleaned from estate records as to the time of planting and management relating to the trees on an estate. Areas and trees requiring Level 1 survey are shown on the attached map, as is the location of the four trees selected for Level 3 survey. The trees that were chosen were:

- A yew at the old family burial ground
- A regenerating ash stump that that had been part of the avenue leading to the abandoned tower
- A bundle planted lime from the 1790 planting
- A cypress tree from the same time. The completed survey forms are attached.

Other areas of note within the Torwoodlee estate are the areas of parkland and the long standing semi-natural woodland at Buchanside. Some of the parkland will have originated from the 1790 estate development with further planting in the 1860's and would therefore fit the criteria for Lowland wood-pasture and Parkland in the Habitat Action Plan. The present land use of the parkland is split between improved grassland, which is used for grazing, and a golf course. All of the parkland would be noted in the inventory and selected trees would require the level 1 survey. There are no true veterans within the parkland. The wood at Buchanside has been survey for the Borders woodland inventory and a management plan written. Within the wood there are some examples of veteran birch and hazel and most of the trees in the wood would be classed as either veteran or veterans of the future. The area would be noted for the inventory with most trees surveyed at level 1 and selected trees at level 3

This conifer plantation, near Grantshouse in Berwickshire is managed by Forest Enterprise and was previously an oak wood. There are remnants of this with large oaks on improved grassland adjacent to the plantation starting to show veteran characteristics This area would require level 1 survey for the purpose of the Borders Inventory though not necessarily every tree as it would be recorded as an area of note. There are some pollarded oaks within the conifer plantation which are of a similar age. These trees were probably pollarded at the time of the conifer planting. They are found at the edge of the plantation and by a path, which follows a small stream running through it. These trees are more interesting with their boles of pollard showing epicormic growth with good bryophyte and lichen cover. These are of a similar age to those at the edge of the wood and all would require the level 1 survey and the better examples the level 3 survey. This is an example of deciduous wood within conifer plantation, the 'N' woods of the Borders woodland inventory, all of which should be surveyed for the Borders Veteran Tree Survey.

Some veteran ash trees ring the field to the south of Birgham in Berwickshire. This field is marked on Roys Military Survey of Scotland 1750 at the Scottish Map Library and the subsequent Ordnance Survey maps. These maps show that the field boundary was lined with trees and it is likely that the some of the remaining trees have pre-1750 origins. This is an example of the use of map records in giving information on veteran trees and how these trees can help us understand past management practices and in landscape interpretation There is a veteran crab apple here at the site of the old farm house

Veteran trees have social, cultural and ecological significance and need to be recorded to promote all aspects of their conservation. A veteran tree inventory will underpin the introduction of appropriate management and also identify future veterans. From research the English Nature veteran tree methodology was found to be suitable and should be applied in conjunction with the Lowland Wood-pasture and Parkland Habitat Action Plan. Information on any historical human activity, associated with a veteran tree or its location should be recorded as this can provide useful additional information.

THE VETERAN TREES INITIATIVE AND THE ROLE OF THE ANCIENT TREE FORUM IN ENGLAND.

Tony Robinson

Although pollarding is an ancient practice, which has produced trees of great ecological value, it is one that had lapsed with little information being recorded on how to successfully carry it out. As a result many ancient pollards were effectively neglected causing increasing problems for those responsible for their management in the 20th Century.

Pioneering work on the restoration of pollards by the Corporation of London at Burnham Beeches and also by the National Trust at Hatfield Forest led to a surge of interest in the subject. A meeting hosted by the Corporation of London at Burnham Beeches on 6 March 1991 brought together for the first time people who had experience in dealing with ancient trees. The proceedings were published as "Pollard and Veteran Tree Management".

A further meeting in 1993, this time at Epping Forest, resulted in the publication of a further volume, "Pollard and Veteran Tree Management II". This second meeting was soon followed by the formation of the Ancient Tree Forum by a group of enthusiasts (co-ordinated by Ted Green and Keith Alexander) who were interested in veteran trees and their management.

The Ancient Tree Forum acts as a network with a regular "Bulletin Board" but its activities are focused on field meetings to different veteran tree sites throughout the country where practical management issues are discussed. Membership is open to anyone with an active involvement in the conservation of ancient trees.

Meanwhile in English Nature this growing interest in veteran trees was recognised, particularly by people like Roger Key who as an invertebrate ecologist knew the value of ancient trees for wildlife. However, it was also appreciated that they have a cultural and landscape value as well, and so after discussions with a number of partner organisations it was decided to establish an English Nature project on veteran trees, and the Veteran Trees Initiative (VTI) came into existence.

The VTI was formally launched in Windsor Great Park at 11 am on 11 November 1996 by David Bellamy with a group of school children under one of the great oaks. Being the eleventh of the eleventh, the scene was replicated by another 10 groups of school children at other veteran tree sites across the country.

As an English Nature project the VTI will run until 31 March 1999 but from the start it has been a partnership with other organisations whose remits encompass the range of interests in veteran trees. The list of partners has grown and now includes English Heritage, the Countryside Commission, the Corporation of London, the National Trust, the Forestry Commission, the Farming & Rural Conservation Agency, and the Ancient Tree Forum , as well as English Nature.

Recognising the range of values that veteran trees have the VTI has defined them as "trees which, by virtue of their great age, size or condition, are of exceptional value culturally, in the landscape or for wildlife". Such trees will usually be of native or long-established species and particularly old or large for that species. In addition to the value of the trees themselves, many of our rarest species of fungi, lichens, bryophytes, and invertebrates are exclusively restricted to these ancient trees.

Although the largest number of these veterans are found in old parklands which are important centres of biodiversity they are also found in small groups or as isolated individuals in lesser known sites. One of the objectives of the VTI is, therefore, to document key sites for England's most important veteran trees.

The other objectives are to:

- Determine the problems faced by veteran trees.
- Provide advice and publicity on the nature conservation value of veteran trees.
- Encourage land managers, by means of demonstration events, to manage veteran trees so as to prolong their lives and maintain or enhance their wildlife value.
- Ensure that new and existing environmental schemes take full account of veteran trees.
- Support research to find solutions to problems faced by veteran trees or plants and animals dependent on them.
- Support projects by other bodies which seek to fulfil the aims of the VTI.

To date the VTI has produced two leaflets about veteran trees. One is in a promotional style that folds out to a poster and is aimed at the general public. The other is a more technical leaflet, "a guide to the care of ancient trees", and is aimed at owners and managers. The latter will be greatly expanded on in 1999 with the publication of management guidelines which will draw together much of what is known about veteran trees and their management.

Building on the successful on-site meetings of the Ancient Tree Forum the VTI has held seven Demonstration Days. The first of these was held in February 1997 at Leigh Woods near Bristol. A self guided trail led around 150 visiting foresters, landowners and arboriculturalists though the woods showing them different aspects of veteran trees and their management including a demonstration of pollarding by local tree surgeons. More latterly these events have settled in to a standard pattern of indoor lectures with a walk-and-talk site visit with expert speakers, many from the Ancient Tree Forum. Demonstration Days have been held at prestigious venues such as Blenheim and Chatsworth. Workshops are a similar type of event but aimed more at the practitioner with the emphasis being on the provision of technical information including a practical exercise for participants. A total of nine such workshops are being held in 1998.

Reflecting the importance of parklands as sites for veteran trees, the VTI hosted a Parklands Symposium in Hereford in May 1998 which attracted a cross section of delegates from the breadth of disciplines involved in parklands. Much of the discussion centred on the Parklands and Lowland Wood Pasture Habitat Action Plan for which English Nature is the lead agency.

A key element of the VTI is to develop a comprehensive and consistent method of survey as an agreed standard for recording veteran trees. A Veteran Tree Recording System has been devised by Neville Fay of Treework Environmental Consultancy. This has two levels; a simple single-tree recording card and a Specialist Survey Method for large scale surveys. Survey information gathered through the Veteran Tree Recording System is to be placed onto a national database of veteran trees which will include a register of recorded sites. It is intended that the database will contribute to a greater understanding of the distribution, biology and ecology of veteran trees. The database should subsequently enable recorders to trace individual trees and assess changes associated with particular specimens.

Finally, the VTI is addressing the concern of many that veteran, and indeed many other, trees are dangerous. A tree consultant and barrister were employed to carry out a review of the risk and liability issues associated with veteran trees and it is now intended to publish guidelines on managing these.

On safety issues, as in much of the VTI's work, the message is one of education and encouraging people to appreciate the value of veteran trees as part of their heritage.

For further information:

Veteran Trees Initiative — English Nature's Project Manager is Rachel Thomas (Tel.: 01733 455039) and the Project Officer is Tony Robinson (Tel.: 01823 283211).

Ancient Tree Forum — Bob Warnock (Tel.: 01372 279083)