Ancient Tree Forum Highland Gathering

Copper beech at Scone Palace.

Paul Hanson, Chair of the AA Scottish Branch

This year's Ancient Tree Forum (ATF) annual summer forum moved to Scotland, taking in trees and woodlands in Perthshire and the Cairngorms. As a local resident and arboriculturist I couldn't have been more pleased; but let's not forget, regardless of my personal leanings, that Perthshire has perhaps the finest treescape in all of Europe, with trees vying for the title of tallest (across a range of species) and oldest (perhaps the Fortingall Yew).

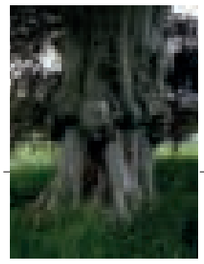
12 June saw ATF members and guests meet at Perth's A.K. Bell Library for a morning of presentations in very comfortable surroundings. Ted Green, Founder President of the ATF, began proceedings with his recollections of the charity, with, as one would expect, various sojourns into loosely related adventures with ancient trees. Delivered with the forthright passion many of us see as Ted's inimitable style, it is always rewarding to see the 'Green effect' on those who have not heard him speak before. An unrivalled champion of ancient trees, Ted has knowledge and experience of the myriad of flora and fauna that form rare, invaluable and often unique ecosystems in association with ancient trees that are equally rare and unique; his steely unwavering passion has been tempered in the fire of the often unsavoury political challenges to those that work with ancient landscapes.

I had the unenviable challenge of following the 'Green experience' with a wee blather about arboricultural engineering solutions to physically supporting ancient trees. Clearly the decision to support trees has to consider the various cultural and environmental, habitat and rare species concerns in relation to cost. Let's not forget that despite what we, the 'arbs', like to think, tree surgery to most budget holders is largely a luxury service or an expensive, if necessary, solution to risk management. Trying to attract funding to conserve old, rotting, collapsing trees is no easy thing and I highlighted one example: the Covenanter's Oak in North Lanarkshire where public pressure led to funds being made available for remedial works.

Tom Christian, project officer for both National Tree Collections of Scotland (NTCS) and Perthshire's own International Conifers in Our Care (iCONic), described Scotland's unique approach to a national tree collection and an international project conserving threatened conifers. Many countries have a national tree collection or arboretum, usually on an individual site. Scotland's approach is uniquely different in that the collection is made up of geographically diverse sites that house a wide range of tree species across an equally wide range of climatic conditions. This approach deliberately pre-empts potential climate change, ensuring a broad distribution of tree species across the collection, a real 'national collection'.

iCONic, a Perthshire-based project, is a partnership between the Royal Botanic Garden Edinburgh, the International Conifer Conservation Programme, Forestry Commission Scotland and Perth and Kinross Countryside Trust. The project works with a range of landowners to ensure that the exotic conifers for which Perthshire is so well known will continue to be represented in the local landscape for future generations while also providing safe havens for many of species which, while quite common horticulturally here, are threatened in the wild (for example, *Araucaria araucana*, *Sequoia sempervirens* and, quite surprisingly, *Chamaecyparis lawsoniana*).

A Woodland Trust double act of Jill Butler and Andrew Fairburn gave us a whistle-stop tour of the trust's Ancient Tree Inventory in Scotland. This UK-wide initiative recorded and verified 138,609 trees by the end of June 2014, and of those there are 10,340 records for Scotland. A little interjection from Mr Green reminded the arbs that they have yet to make any significant contribution to these records and that it's never too late to start! What constitutes a tree worthy of recording and the systems for verifying those records were clearly described by Andrew, who has personally recorded many of Scotland's finest trees. Jill introduced wood pasture on the basis that such landscapes, as well as being enormously valuable ecosystems in their own right,



are crucial repositories for ancient trees and associated micro-ecosystems. Changes in land management and ever-encroaching human development continue to render these increasingly threatened environments hard to identify, harder to protect and even harder to manage as wood pasture.

Suzanne Perry of Natural England confirmed what we understand to be wood pasture and the key components of that landscape. Wood pastures and parklands are the products of distinctive historical land management systems. Typically they comprise large, open-grown trees in a matrix of grazed grassland, heathland or woodland floras. Wood pasture is a category that often overlaps with woodland and other habitats. It is often of great age, surpassing that of the old individual trees. Relatively recent threats to our wood pasture are overgrazing, changes to forestry and agricultural practices, inappropriate development and increasing isolation and fragmentation. Remarkable Scottish examples of ancient parklands can be seen at Dalkeith Old Oakwood and Cadzow Oakwood in South Lanarkshire, and actively managed ancient upland wood pasture can be visited at the Woodland Trust's estate at Glen Finglas.

A view of Atlantic hazel woodland through the eyes of Gordon Gray-Stephens provided an enchanting journey through the often all too wet and windy landscape of western Scotland from the warm, dry comfort of our urban auditorium. This is certainly an unusual landscape feature and the jury is still out as to whether these woodlands occurred through natural selection or if, as is so often the case, human intervention had a part to play in the species selection. These woodlands often occur on the most inhospitable of exposed hillsides, but so to do the Scots: these hardy breeds of trees and people have long cohabited, colonising parts of a beautiful if difficult landscape that lesser mortals and plants stayed well clear of.

Scone wonders and Dunkeld giants

So on to Scone Palace, home of the Earls of Mansfield with whose kind permission we borrowed their head gardener (Brian Cunningham) who joined with our own Donald Rodger to lead the afternoon excursion at what has been called the Windsor of Scotland.

This is a site that has a wealth of tree history to share: home of the young David Douglas; host to one of Scotland's oldest and finest pinetums; operating a relatively modern approach to woodland pasture in the grounds to the south and west of the palace; a founding member of NTCS; and a key contributor to iCONic.

Heading towards the pinetum, we were waylaid very early on (not yet 100 yards from the car park), stopping en masse at an original Douglas introduction: one appropriately named Douglas fir (*Pseudotsuga menziesii*) with a broad rough canopy that could not differ more from those typical of commercial plantations. Much discussion ensued about: a) the use of this species in forestry to the demise of our native woodland, b) the compaction of the tree's root plate by the many visitors and c) just how many times this tree had been moved within the garden before being allowed to rest where it now grows. Stopping briefly at the new David Douglas Pavilion and then moving on through the young trees in the new section of the pinetum, the ATF group hurried towards the towering (50m plus) trees in the original pinetum – only to be waylaid again at an individual tree, a UK champion western hemlock (*Tsuga heterophylla*). This tree is host to innumerable brackets of *Ganoderma applanatum* and has been subject to various inspections and tests by several arborists, the consensus being that the tree is severely decayed internally if not hollow and that remedial works by way of crown reduction were warranted – after the best part of 30 minutes' debate the ATF group almost agreed. After taking in the remainder of the pinetum, including four spectacular giant Sitka spruce (*Picea sitchensis*), the tour headed back

Ancient Tree Forum supporters gather under the ancient Birnam sycamore.

Field event at the Rothiemurchus Estate.

towards the palace to congregate at the layering lime (*Tilia platyphyllos*) by the main entrance to consider this unusual arboricultural peculiarity. This was followed by a visit to the rather worse for wear James VI's sycamore and on to his ancient oak, now somewhat smaller than the measurements recorded by Hunter in 1883. As the tour wound to a close we gathered beneath a sickly copper beech to examine the reasons behind and the value of grafting, this particular tree having been grafted at circa 2m; once again the phenomenon that is Ted Green dragged us off piste and we delved into the weird and wonderful world of fungi for a little while before Brian Muelaner thanked our hosts and guides for this brief glimpse of one of Scotland's ancient tree treasures.

Those fortunate to able to do so headed off to Dunkeld to visit more of Tayside's silvicultural giants before tea. Discussions were held around the Birnam oak and sycamore, thought to be the only surviving trees of the huge forest that once grew along the banks and hillsides of the River Tay, about the threats they face from high visitor levels and potential fire damage inside the hollow oak.

Rothiemurchus forest

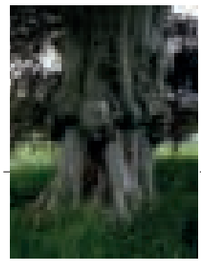
Day two began at Loch an Eilein on the privately owned Rothiemurchus Highland Estate, north-east of the River Spey. It has been under the stewardship of the Grant family since the 16th century. The Rothiemurchus forest covers an area of about 30 sq km and is believed to comprise over 10 million trees. This is one of the largest surviving areas of ancient woodland in Europe where the average age of the Scots pine exceeds 100 years, with some real veterans in excess of 500 years.

We visited courtesy of the 17th Laird of Rothiemurchus and his wife (Johnnie and Philippa Grant) who were kind enough to lend us their estate forester (Piers Voysey) for the morning – a man who is well versed in the intricacies of managing this ancient woodland site to try and satisfy the demands of timber production, conservation, continuity of employment and tourism. The pinewood as an ecosystem provides a haven for species ranging from capercaillie, red squirrel and creeping lady's tresses to toothed wintergreen, pine hoverfly and stump lichen. It comprises Scots pine, birch and juniper primarily with aspen, rowan and holly and some odd exotic conifers at the western end of the loch. In the late 18th century and early 19th century, the loch was used mainly for two income streams: lime production on the banks of the loch and logging. Rob Roy and other cattle rustlers are said to have used the loch and not surprisingly this little nugget of notoriety brought the discussion right back to wood pasture, with examples to hand of rowan and pine thriving as they grow up through dense juniper out of reach of the herbivores.

Extra treats for the mycologists came once again from the eagled-eyed Green enigma when he spotted *Porodaedalea pini* (syn. *Phellinus pini*) high in the canopy of a fine old pine; as someone relatively local, I had only seen this fungus once before, strangely enough also in a Scots pine, some 5 miles to the north-east at Loch Morlich. Later on Ted pointed out *Inonotus obliquus* on birch, odd in that, despite it being thought of as preferring a cold climate, it seems to have moved west into warmer climes and is bucking the global warming assumptions.

It must have seemed quite strange to other visitors to the loch that day to work their way through a long straggle of tree specialists and supporters all passionately and vociferously debating a myriad of tree issues in an otherwise quiet and serene landscape. Towards the final leg of the 3-mile circular route Piers introduced us to a group of submerged logs close to the shore that had recently been recovered from the bottom of the loch by a team from St Andrew's University and dated at around 7000 years old.

Concluding our morning, Chris Knapman thanked Piers, our ever-patient and



Ted Green talks to Ancient Tree Forum visitors under an ancient sycamore at Scone Palace.

knowledgeable host, and we headed for the plush environs of the Macdonald Aviemore Resort's conference suite for the afternoon's presentations.

Historical human influence

Having discussed over the last day and a half the possible consequences of human intervention in creating wood pasture and selecting/growing tree species in specific locations for local uses, Kate Holl's paper on historical transhumance in the Scottish Highlands introduced a plausible explanation as to why the Highland landscape looks the way it does today. The weather plays no small part in the agriculture of the Highlands with summer and winter grazing a crucial part of livestock management and tree hay an important part of the diet. The romance of cattle rustling has some truth to it but in any case droving was a matter of fact, and over time well-travelled routes were managed to provide what the cattle and their drovers needed, including the deliberate cultivation of trees at regular stop overs. Of course the advent of the industrial age saw massive and quick changes to landscape management, the Highland clearances rendered wood pasture management obsolete almost overnight and the increasing demands for timber saw an unprecedented reduction in woodland cover throughout the area.

Scots pine.

Wood ants

We were now well informed about our hard-working and industrious ancestors when Hayley Wiswell introduced the role of wood ants in pinewood ecology. Two species (*Formica lugubris* and *Formica aquilonia*) are native to Scotland, and the activities of these tiny creatures make our ancestors look like lazy wasters! The various ant species have preferred habitats from the woodland edge zone of Scots pine and birch woodland, to occasionally within woodland or out on open heath, to very open Scots pine and birch woodland with a few scattered trees often containing shrubs such as juniper. Wood ants may also nest in small mires within the Caledonian pine forests; some species can tolerate dense shade whilst others prefer sunny glades. There is an ant specialist for most native woodland types with the dome-shaped nest mounds easily recognisable, varying according to species from 25cm in height with a width of 30cm to 1.5m in height with a width of 2m. Key threats in Scotland to wood ants are insensitive and large-scale clear felling operations impacting on populations through both direct nest destruction and removal of food sources, and poor forest management, particularly where woodland is becoming increasingly shaded and suitable habitat is not provided at the woodland edge, for example where it borders agricultural or developed land.

Pinewoods: fungi, invertebrates and resilience

Liz Holden presented a fascinating piece on the fungal ecology of pinewoods; her enthusiasm clearly matched that of our favourite ATF fungi champion. Liz is not constrained by academia and is happy to 'talk fungi' knowledgably at any level, so it was thankfully kept simple today. Fungi are perhaps one of the most poorly understood organisms on Earth; there are fungal specialists that fill every niche in natural woodland, recycling everything one expects to find in such woodland. What we don't really understand is the relationship fungi have with their hosts; just what triggers the balance of power in plants to favour 'robust premature recycling' by fungi ahead of the way we expect the host plant to die? Fungi rely heavily on woody plant material, and rare fungi may well be indicators of ancient woodland, with some species so specialist as to be found only on extremely old non-living wood.

'Pinewood invertebrates' is a dull title for what proved to be an energetic, inspiring and fascinating delivery on bugs in the pinewood, and a few other places, by

Dr Stephen Falk. Who knew that there are over ten species of native bee to be found in Scotland, of which, just for the arbs, there is even a tree bumble bee (*Bombus hypnorum*)? Stephen gave us a whistle-stop tour of his life with bugs that has involved illustrating, photographing and generally being the Indiana Jones of entomology. Interestingly I had the pleasure of sharing a ride with Stephen back to Perthshire during which the arbs pressed him about a condition caused by an insect pest affecting bird cherry, leaving them defoliated and covered in a ghostly gossamer-like filament, observed on the journey to Aviemore from Perth. Eventually we managed to stop at Dunkeld and get close up and personal with an affected tree on which we discovered an army of small green caterpillars; our captive bug guy revealed the pest to be the bird cherry ermine moth (*Yponomeuta evonymella*) which we were told is having a bumper year in Scotland, perhaps due to the warm winter and spring.

The rising number of new pests and diseases recorded as being here, or almost here, in the UK was the undercurrent of the final session of day two. Presenting 'Tree Health and Resilience in Pinewoods', Dr Stephen Cavers outlined the work he has been undertaking at the Natural Environment Research Council Centre for Ecology and Hydrology in isolating strains of Dothistroma needle blight and seeking to identify resistant pines. This work sparked heated debate as to whether or not many of the 'new' diseases are actually new or whether science is just looking harder and more often, and that slight climate warming is giving rise to ideal conditions for previously low level populations of pests and diseases to expand dramatically. Much like our knowledge of fungal interactions with woody plants, our knowledge of pest and disease interactions and population cycles is poor. The best we can do is to conserve the broadest range of tree DNA material we can, and diverse open wood pasture may yet provide some of the answers.

In conclusion Brian Muelaner thanked all of our speakers and the intrepid tree hunter delegates from the deep south who were brave enough to venture north in these trying political times to join their Scottish colleagues in celebration of Scotland's unique trees and woodlands. Seeds have been set regarding the formation of an ATF sub-group in Scotland. Watch this space.

See you next year.

The Ancient Tree Forum welcomes arborists to its field events and conferences

The Ancient Tree Forum (ATF) holds field events three times a year, bringing together a diverse range of tree and wildlife experts and enthusiasts, all interested in the conservation and management of ancient and veteran trees.

Summer forums

These events have been held for the last five years and combine a full day out in the field with a conference at which speakers give presentations relating to the ecological, heritage and cultural value of ancient trees. The event moves around the country, and past locations have included Suffolk, Devon, Cumbria and Sussex. This year's forum in Scotland attracted around 80 people, many of them new to the ATF. Attendees from Scotland appreciated the chance to network, explains organiser Chris Knapman of the ATF: 'I'm delighted that there was real interest in setting up a Scottish branch of the ATF, and hope that this will raise awareness of the work we're doing to protect the UK's ancient trees.' The 2015 Summer Forum will be held in East Anglia.

Autumn and spring field events

Field events are generally held every March and October. On Thursday 9 October 2014, the ATF will be running a field meeting at Newnham Park, a hidden gem of Devon's treescape close to Plymouth. The park provides an ideal deadwood and beetle habitat, and hosts an excellent age structure of oaks, with a large number of veterans and ancients with girths of between 4m and 6m. Other interesting trees to see include large old beech, some ancient ash and many old hawthorn and elder. The visit will explore how the high level stewardship (HLS) scheme will help to prolong the life of these trees.

For more details about ATF events, see www.ancient-tree-forum.org.uk or call 01935 873766. To request a booking form for the Plymouth field event, email eventsATF@aol.com.

Newnham Park, venue for the ATF's next field meeting on Thursday 9 October.