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Report from the Chairman
Colin Hall

1998 - a year of development and change

Last year was an historic year for the Tree Register. We achieved our target of computerising data on 100,000 trees some 20 months ahead of our deadline. The enthusiasm of our data team has meant that the computerised register now contains over 120,000 records - including Alan Mitchell's original hand written records. We owe a great thanks to David Alderman, Owen Johnson, all the data team and our volunteer tree measurers for their tremendous efforts in achieving this.

Our thanks are also due to all those who supported our fund raising in 1998. We are a small charity with very low overheads but nevertheless every year we must raise sufficient funds, not only to meet our costs, but also to carry our work further forward. We are most grateful for your continuing generosity.

Vicky Schilling retires

In 1998 Vicky Schilling handed over the role of Registrar to David Alderman and Tony Schilling retired as a Trustee. To many, Vicky personified the Tree Register and without her enthusiasm we would never have progressed so successfully since its formation as a charity in 1988. We owe a huge debt of gratitude to Vicky and Tony for their contribution over the years and we are delighted they will continue to be involved with the Tree Register as our first honorary presidents.

Welcome to Thomas Pakenham

Thomas Pakenham has joined the body of the Trustees and he kindly agreed to present the Alan Mitchell memorial lecture at Leonardslee on his "Meetings with Remarkable Trees - the quest for Strutt's 48". We very much look forward to this event and seeing many of you there.

New initiatives

The Tree Register covers Great Britain, Ireland, Isle of Man and the Channel Islands. An exciting development during the year was the obtaining by the Irish Tree Council of funding through the Irish Forestry Service to establish a Tree Register of Ireland, a project on which we will be collaborating closely. Good progress has also been made during the year on the Isle of Man. (see Tree News from the Regions)

The Tree Register contains scientific and statistical data on champion and other notable trees, including many trees now being designated "veteran trees" by English Nature. We are fortunate in having good links with the Ancient Tree Forum whose initiative inspired English Nature. We hope to include more information on veteran trees as the project develops. A similar initiative and liaison is evolving in Scotland.

One project we hope to take to fruition will be the publication of a Champion Tree Book, listing all champion trees throughout the British Isles at the Millennium. We aim to produce a book to appeal not only to our own supporters but also to a wider audience. If any supporter feels able to contribute to this project, please let us know.

The Charieville Oak, Ireland - a "Remarkable Tree"
(Tree Register)



We would also like to raise our public profile so more people may be aware of and be able to benefit from, the unique records held on the Register. To do this we need to find a publicity officer with experience of the world of journalism or public relations - if anyone with this experience would like to help, please get in touch.

Profile

By The Earl of Rosse

Thomas Pakenham - newly appointed Trustee

Coming from a family already renowned as authors and historians, Thomas Pakenham has himself now brought out four truly great works after an initial post-Oxford foray into Ethiopia produced *The Mountains of Rasselas*. *The Year of Liberty*, on the Irish Rising of 1798, *The Boer War* and *The Scramble for Africa*, were each the result of nearly a decade of research and the last ended up winning both the WH Smith and Alan Paton Awards. These successes have now been followed by his unique and inimitable *Meetings with Remarkable Trees*, a triumphant selection of haunting images which cannot fail to instill in even the least sensitive, a sense of wonder at the might of the tree.

Plant collector

This last work reflects a life-long love of trees, which is now coming out on top. Thomas Pakenham not only will, but does, scour the world in search of trees both to photograph and to add to his collection at his home at Tullynally in the Irish midlands. He has been seriously plant hunting and seed collecting in at least three continents. So successful has he been that his garden now has glades of the most exciting plants and trees grown from seed which he has collected in places as far away as Ethiopia, Tibet and Yunnan.

Irish Tree Society

In 1990, Thomas founded the Irish Tree Society, an all-Ireland body which won its spurs and huge publicity for saving the 2,000 great oak trees of Coolatin, which can be thought of as the Sherwood of Ireland.

New Trustee Thomas Pakenham, right, with Colin Hall (Chairman of Trustees) centre, the Earl of Rosse and Margaret Gormley (Irish Tree Council), at Birr Castle Co. Offaly Nov. 1998. (Tree Register)



The Irish Tree Society, under Thomas' direction, has a programme of four events each year. These include not only visits to arboreta, woods and gardens, but seminars and workshops like the one at Abbey Leix at which David Alderman gave a most impressive demonstration of tree measuring and the work of the Tree Register. It was that which inspired the Irish Tree Society to submit a joint application with the Tree Council of Ireland, of which it is a constituent body, for an EU grant for a separate Register of Trees, to be extended across Ireland. Thanks to the all Ireland coverage of the Irish Tree Society that application has

now been approved, so plans are being laid for the work to be undertaken in parallel and close collaboration with the Tree Register. Thomas' appointment as a new Trustee of the Tree Register will help to consolidate this co-operation.

Registrars Report

David Alderman

A unique database of our tree heritage

Taking over the busy role of Registrar since Vicky Schilling's retirement in April has been a great challenge. I worked closely with Vicky over the past few years and computerisation could not have been possible without her commitment and enthusiasm for the Tree Register. With most of the original records entered onto the database, completed by a band of equally stalwart volunteers, the time-consuming process of checking and sorting begins. Most of this takes place when a property is revisited and anomalies are noticed. My thanks must go to Owen Johnson who continues to be a valued source of knowledge and help in creating what has become the most important database of our tree heritage.

Increased demand for data

With little advertising and few articles in the press, the Tree Register still receives many enquires each week, by post, telephone and more increasingly email. Much of this is handled ably by our Secretary Pamela Stevenson, who is for many people their first contact with the Tree Register. Requests for information and advice from the database are varied, from searching for a particular tree, to statistics on growth rates or the distribution of rare species. Popular requests, champion tree updates and other information will soon be available on our Internet Web site. Over the past year we have played our part in helping highlight many important trees previously been taken for granted and in at least one case we provided an owner with information which persuaded him against felling a tree. There is increasing interest in local champions and rarities and the database has made it easier to search for specimen trees at local level and within specific geographical areas throughout the British Isles.

Searching for our heritage

Tree measuring and the recording of notable trees has become more popular over the past few years. The Tree Warden Scheme, the Conservation Foundation's elm and yew campaigns and the Veteran Tree Initiative have all added to our desire to seek out and record our tree heritage, probably the finest in northern Europe. One of our supporters from Holland, Jeroen Pater, who has searched extensively for the largest oak in Europe, reported to the Tree Register that there are more ancient oak trees on the Duke of Bedford's estate at Woburn, Beds. than in the whole of Holland. Jeroen heard rumours of a huge monster oak found in old Yugoslavia some 525cm dia. (1 6.5m girth) recorded at 1.3m. The tree has since been reported to have gone, but a photograph on the Internet shows a huge hollow buttress system supporting what, at the time, was a healthy crown. Trees such as these are revered in European countries, whereas they are still taken for granted in our own.

Great Welsh oak

It was therefore pleasing to confirm the largest of several ancient trees at Liantilio Crossenny, Gwent as being the fifth largest girthed oak recorded in Wales and so an exceptional tree. The Campaign for the Protection of Rural Wales wish to name the tree "The Millennium Derwen". It is sad to hear that the Bulmer cider company is ploughing up to its canopy with the intention of planting fruit trees. Another example of ancient and historic trees not being given the protection they require.

"The Millennium Derwen" (J. Edwards)



Bundle planting of beech

Ted Green, who founded the Ancient Tree Forum, is doing much to promote these venerable specimens. At Windsor he showed me evidence of bundle planting of beech, something which will be of interest and a dilemma to all tree measurers. In the Great Park there are several examples of collapsed beech which appear to have been three separate stems and yet they created a common shoulder typical of a pollard. At nearby Silwood House is a fine example of a bundle of four or five beech growing as one huge tree on the lawn. There would seem to be no dispute about this and its measurement of 203cm dia. (6.38m girth) at 0.6m suggests a fine specimen if considered to be one tree. Coppiced pollards at Epping have also proved themselves to be bundles and the practice may be more widespread than is obvious at first glance.

Champion tree book

The largest Common oak (*Quercus robur*) could arguably be a broken hulk at Windsor. 355cm dia. (1 1.2m girth) @1 m remains from a potential and still easily defined, 414cm dia. (1 3m girth). The description of such a tree's condition, form and growth is important with regard to champion trees. Unlike previous publications, the proposed new champion tree book will record several specimens of champion status for many species and 2,000 of these will be included.

Tree maintenance

Tony Kirkham Head of Horticultural Operations and Support Section RBG Kew.

Conservation of mature trees at Kew

Background

A number of Kew's mature trees are considerably stressed by a variety of environmental pressures. These include compaction, drought, removal of organic matter like autumn leaves, grass mowings, deadwood, isolation of specimens following neighbouring tree removal and storm damage. Also parasitic root fungi such as

Armillaria mellea and *Meripilus giganteus* may be factors as well as competition with grasses. Over the past decade, such stresses have led to a slowing in the growth rate of a number of Kew's mature trees, because energy reserves have been used to maintain existing tissues at the expense of new growth. With multiple stresses decline begins and some important landscape trees are now showing symptoms such as stunted growth, thinning crowns with small leaves, premature leaf fall, abnormally heavy crops of seed and branch dieback. If the stress is not alleviated, such trees will decline steadily and eventually die.

Root protection and care

Maintaining a stable environment around mature trees is critical in delaying the stages from maturity to decline and death. Kew's newly introduced Tree Risk Assessment and Management System (TRAMS) aims to be proactive rather than reactive by identifying specimens in the landscape which would benefit from preventative treatments rather than purely remedial measures after decline has begun. Recent research in the USA clearly shows that a range of cultural practices including root system protection and care can increase the longevity of mature trees in a manicured landscape. Root loss is the most common factor leading to premature decline and death.

Treatment

Relieving compaction around the root crown immediately increases the supply of oxygen and moisture to the feeding roots. Mulching the root crown is highly effective in improving the soil to stimulate root growth. Mulches moderate soil temperatures, conserve soil moisture, supply organic matter and provide a buffer against further compaction. They also eliminate competition for moisture and nutrients between turf and trees. In a natural forest setting, soil and root microbial associations are the norm. In a manicured arboretum the need for beneficial mycorrhizae is even greater, because there is generally less moisture, nutrients and organic matter in typical arboretum soils. The presence of beneficial mycorrhizae in these conditions will help to successfully maintain healthy feeder root growth. Mycorrhizal fungi benefit trees by increasing stress resistance, improving plant viability in distressed soils and reducing the susceptibility of roots to soil-borne diseases.

Mycorrhizal inoculation

A programme began at Kew in March 1998. Ten trees of high landscape importance showing significant signs of decline had been selected during the summer of 1997. Photographs were taken showing the thinning crowns. Remedial procedures using mycorrhizal inoculation followed by mulching were carried out over two weeks. The trees will be monitored during the next two summers, checking for an overall improvement in vigour and health.

The procedures for mycorrhizal inoculation are as follows: Clearly mark a radius of 4 to 5 metres from the trunk around the tree. Strip a band of turf around this radius, to prevent the mulch from creeping out. Instead of herbicide application, mow the sward to the lowest cut, to distress it and prevent any regrowth after mulching. Decompact the compacted soil around the trunk, using the "Teravent". (Loaned to RBG Kew courtesy of Teravent UK Ltd.) This is a deep drilling machine that creates a pattern of 60 x 518" diameter holes up to 10" deep at 5" centres in a single movement. Nitrogen gas is inoculated at depth, creating a network of both lateral and vertical fissures in the soil profile, followed by mycorrhizal spores in water solution. An organic mulch is applied.

Trees selected for 1998 were: *Quercus x tumeri*, *Cedrus atlantica*, *Fagus sylvatica* 'Pendula', *Quercus castaneifolia*, *Quercus rubra* (2), *Cedrus libani*, *Zelkova carpinifolia*, *Platanus x hispanica* and *Fagus sylvatica* 'Purpurea'. If the results of this root maintenance work appear to be successful, Kew will budget for a continuing expanding programme.