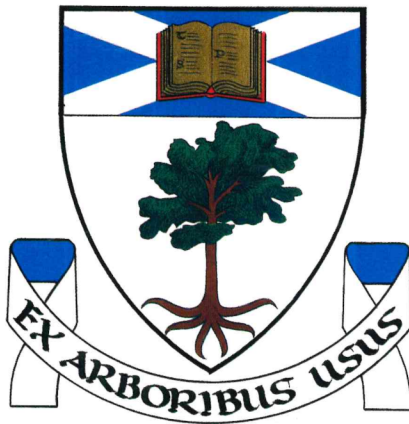


THE SCOTTISH FORESTRY TRUST



ANNUAL REPORT
2002 - 2003

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THE SCOTTISH FORESTRY TRUST AND ITS OBJECTIVES

The Scottish Forestry Trust is a charitable trust, which was established in 1983, to promote education, training and research in forestry.

The Trustees have determined that, for the time being, the Trust's major contribution should be towards funding research projects, although, as opportunities arise, educational and training projects may be supported. A small proportion of the budget is set aside for publications and travel.

The Trust's primary objective is to support British forestry by contributing to the scientific, technical and economic information it requires to enable it to develop its role. "Forestry" is defined in the widest sense, and includes production and use of all forest products and its contribution to landscape, recreation, wildlife and the environment.

Projects in all of the sciences, which bear upon forestry, may be supported by the Trust. Priority is given to proposals that address industry needs related to policy formation and execution, and to broad management questions. In general terms, preference is given to studies of an applied nature where the benefits are more immediately available to the industry. Notwithstanding that, fundamental work, with potential to resolve outstanding problems, or reveal new opportunities, is also supported.

TRUSTEES, OFFICIALS and ADVISERS

2002-2003

TRUSTEES

Chairman Sir F M Strang Steel Bt, CBE

Trustees Dr C M Cahalan*
J R Firn*
A Hart
J Kissock
W L Mason*
W McGhee* (from 1st January 2003)
S A Neustein* (to 31st December 2002)
Dr J A Petty**
R W L Scott (from 1st January 2003)
M Williams MBE
L L Yull (to 31st December 2002)

*Member, Projects and Research Committee

**Chairman, Projects and Research Committee

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Director's Secretary Mrs Elizabeth Hughson

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Registered Charity No SCO08465

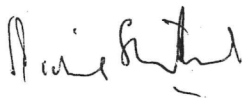
CHAIRMAN'S FOREWORD

The fall in the market value of the investment portfolio continued to focus the attention of Trustees on investment policies and expenditure. The audited accounts show a reduction in the market value of the investment portfolio of £584,655 so that the net assets at 31st March were £1,744,301. This represents a fall of 23.1% compared to 29.8% for the FT All Share Index. The Trustees met three times during the year with the Investment Managers to review the balance of investments in fixed interest gilts and bonds and in particular equities. The Trust's asset allocation during the year was similar to the average provided by an independent monitoring company of charity portfolios in the UK, WM Charity Fund Universe asset allocation. The Trustees, advised by the Adam & Company Investment Management, are in total agreement with the policy "to invest in companies with solid balance sheets, a strong franchise and profits record, a secure dividend and the ability to generate cash in the knowledge that they will provide an attractive return under most economic circumstances."

Significant reductions in money spent on research and projects and reduced expenditure on management and administration compared with the previous year occurred. Delays in completing and starting some projects accounted for the former being well under budget and the under spend will be carried into the next two years. The reduction in cost of producing and distributing the Annual Report by £5,800 last year was seen as making better use of the Trust's resources. Information and news of the Trust is now readily available from the web site. A saving of over £6,000 on publicity is shown as the web site was set up last year and only required negligible expenditure this year. Costs were also trimmed in other areas of management and administration to achieve a 32% overall reduction.

On a brighter topic, five projects were completed this year including three post-graduate degree theses. It is satisfying to look back at many previous projects supported by the Trust to see the benefits and impact on forestry knowledge, practices and policies in this country. As the Trust goes into next year, six projects continue to be supported and four new projects are planned to start.

Lastly I wish to acknowledge the time and commitment of the Trustees who provide their knowledge and expertise free and very willingly, and thank the Director for the careful management of the Trust's affairs.



Sir F Michael Strang Steel Bt, CBE

TRUSTEES' REPORT

The primary objective of the Scottish Forestry Trust is to support research, education and training in forestry, and the Board of Trustees has the sole power to make decisions for the Trust. Trustees are appointed for their experience, expertise and objectivity and provide a good balance of appropriate skills on the Board according to the Trust's constitution. Full meetings of the Trustees are held three times per year and the Projects and Research Committee, which evaluates applications for grant aid, meets a month before each full Trustees' meeting. Trustees give freely of their time. In the case of the Chairman and members of the Projects and Research Committee, this is in excess of 10 days per person each year. The Director is responsible directly to the Chairman for the day-to-day organisation and management of the Trust's business.

Statement of Trustees' Responsibilities

Charity law requires the Trustees to prepare financial statements which give a true and fair view of the state of affairs of the Scottish Forestry Trust at 31st March 2003 and of its income and expenditure for the previous twelve months. In preparing those financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently.
- make judgements and estimates that are reasonable and prudent.
- prepare the financial statements on a going concern basis unless it is inappropriate to presume that the Trust will continue in existence.

The Trustees are responsible for keeping proper accounting records, which disclose with reasonable accuracy at any time the financial position of the Trust and to enable them to ensure that the financial statements comply with charities' legislation. They are also responsible for safeguarding the assets of the Trust and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Review of Projects Portfolio

During the past year five major projects were completed and six are continuing. The Trust supported the publication of a book, *A Pleasure in Scottish Trees*, by Alistair Scott. This is a delightful book, which should be of interest to a wide readership. Where the Trust supports the publication of a book, it is normal to require 2.5% of the royalty payments. A research scientist's visit to Vermont for three months was supported to allow her to prepare a very interesting report on public perceptions and attitudes to forestry in northeast USA compared to Britain. Two PhD degrees being completed at Aberdeen University are - *Optimal Management Strategies for Capercaillie in Forest Plantations* and *Effect of Growth Rate on Wood Properties of Genetically Improved Sitka Spruce*. The results of both studies have significant implications for forestry in Scotland. An M.Phil degree was awarded as part of a study on *the Role of Winter Desiccation and Frost in Determining Stem Form in Silver Birch Provenances*. Publications in forestry journals are expected on each of these studies.

As noted in previous Annual Reports, the *John Eadie Memorial Fellowship* is proving very valuable in gaining access to skills and experience not readily available in the UK and obtaining an outsider's perspective of forestry here. This year Dr Jean-Michel Leban, from INRA, Nancy, France, was awarded a fellowship to develop a timber quality model for Sitka spruce, which can be integrated with existing growth and batten performance models. Scientists at the Northern Research Station, Forest Research are working with Dr Leban in developing the model, which is to be completed by the autumn of 2003.

Other ongoing projects include a study of the *Genetics of Fragmented Tree Populations* being carried out at Edinburgh University, and *Modelling Growth of Sitka Spruce and Birch* at University of Wales, Bangor. The production of a series of TV programmes on *Man's Relationship with Trees and Forests* is still being explored. The Trust has agreed to provide £6,000 to assist in the preparation and publication of a *UK Forest Industries Sector Sustainability Strategy* by the Forestry Industry Development Council. The Centre for Timber Engineering, Napier University was established and has its first intake of students in 2003. The Trustees agreed to provide £10,000 over the first three years to support this major initiative.

The projects noted above, and others listed later as "completed projects", indicate the diversity of the applications received. Competition for funding is intense, good well thought out projects are essential, and high standards of research and management are demanded. Many applications have to be rejected and often the Trust can only provide part funding.

Financial Review

During the year Brown Campbell CA, who have been the Trust's accountants and auditors since the Trust was established, closed their office in Edinburgh. The Trustees would like to thank Brown Campbell for their services over the past twenty years.

The financial statements prepared comply with the requirements of the Trust Deed and the Charities Accounts (Scotland) Regulations 1992. The audited accounts prepared by the Trust's Accountants and Auditors, Chiene & Tait CA, are presented later in this report. The auditors observe that the financial statements give a true and fair account of the Trust's affairs at 31 March 2003.

During the year the Trustees agreed on the following *Socially Responsible Investment Policy*.

The management of the investment portfolio of the Scottish Forestry Trust takes due consideration of the Trust's aims and objectives. The Trustees seek to invest in companies that will successfully develop their business financially in the interests of their shareholders, and demonstrate responsible employment and best corporate governance practices. The companies should be conscientious with regard to human rights and environmental performance, including the sustainability of forests. Moreover companies should act with sensitivity to the communities in which they operate. Investment in any company that promotes pornography, or where the principal business is in tobacco or weapons manufacturing is avoided. Given the complexity of many companies, some will have business interests in areas we seek to avoid; these are monitored to evince that they meet our broader criteria.

The Chairman in the Foreword has addressed the main financial issues which have made up a prominent part of the Trustees' business over the year. During the year, management of the Trust's investments transferred from First State Investments to Adam & Co Investment Management Ltd. The net assets of the Trust at 31st March 2003 were £1,744,301, down from £2,328,956 the previous March. The performance of the investment portfolio and expenditure will continue to be reviewed every four months and action taken where appropriate to improve the financial position of the Trust. Trustees are asked to assess major risks to which the Trust is exposed. The Trust employs professional legal, investment management and accounting services. With the market value of investments at 31st March 2003 of £1,634,260, comprehensive office insurance and financial commitments over the next three years totalling less than £85,000 the Trustees have taken measures to alleviate danger of major risks to its continued operation.

The Trustees in drawing up the budgets for the year had the target of reducing total expenditure from 6% to 5% of the market value of the investment portfolio. (Budgets are based on total returns on investments and not restricted to income from dividends, interest and sales of reports.) Over the whole year total expenditure however was approximately 5.3% of the market value of which 1.7% was for management and administration.

The income generated by sales of reports and royalties from books, although not large, again generated over £300. This income came from sales of the report *Locations of Populations of Native Trees*, and royalties from books.

Expenditure on projects this year amounted to £57,687 from a budget of £90,000. Most applications received seek funding for three years so attention has to be paid to impacts on budgets for future years, especially if decreasing budgets might be required, and it is important to continue to accommodate new projects. There were also delays in completion and starting new projects. This year £19,000 is being carried over to the Projects and Research budget for the next two years. This will help lessen the impact of the significant reductions in new funding in those years.

PROJECTS COMPLETED THIS YEAR

The Role of Winter Desiccation and Frost in Determining Stem Form in Silver Birch Provenances

Dr M Mencuccini and S Strati, University of Edinburgh

The effect of winter/spring frosts on stem form of provenances of silver birch (*Betula pendula*) was examined. Earlier work indicated that late spring frosts are a probable cause of shoot dieback. Differences between eastern and western seed origins in flushing date were noted. Further work focussed on the role of winter xylem embolism. Xylem embolism is caused by the formation of gas bubbles in the wood during freezing. If gas bubbles persist upon thawing, water transport to the leaves is impeded and dehydration occurs. Differently from frost damage to living cells, winter embolism does not depend on the occurrence of largely negative temperatures and it only requires that a freeze-thaw cycle occurs.

Winter levels of embolism of 50 to 70% were recorded, depending on where the measurements were taken (100% indicates complete gasification of the xylem). Current year twigs were embolised more than 3-year-old twigs. By the end of winter, it was estimated that apical twigs had reached 100% embolism, but subsequent measurements in early spring indicated almost complete recovery. On the other hand visual observations showed that 95% of individuals had suffered some degree of frost damage, with at least one dead apical bud. Some 20% showed at least one branch, lateral or apical, desiccated. Embolism may have acted to induce lethal levels of dehydration during winter, especially if followed by sunny and windy days. Further studies of the mechanism are required to confirm that conclusion.

Optimal Management Strategies for Capercaillie in Forest Plantations

Dr D Macmillan and K Marshall, University of Aberdeen

Habitat management is seen as a major contributor to recovery in Capercaillie (*Tetrao urogallus*) declining numbers. Forest managers need to understand the trade-offs between timber production and provision of habitats to encourage Capercaillie populations. This PhD project set out to develop a model that could guide decisions about forest harvesting in forests where Capercaillie preservation is an important conservation objective. The model developed combined a linear programming model with a GIS-based habitat model and allows the forest manager to investigate systematically alternative forest harvesting plans for improving Capercaillie habitat quality. Habitat quality is assessed from forest inventory data (e.g. tree species, age class, ground cover and density) using an expert-based scoring system.

Two forests representing a conservation forest (North Glenmore) and a commercial forest (East Feshie) were used as case studies. Although different in management objectives and structure, both forests have accurate information on timber volume, growth rates, age classes and stand characteristics required by the model to assign Capercaillie habitat types. Two management scenarios were examined. "Normal Management" and a "Capercaillie Management". The latter is based on harvesting decisions that optimise Capercaillie habitats in the next 5-year period, but still meets the same timber production output as the former. The results indicate that the Capercaillie management option could substantially increase the area of better quality habitats for Capercaillie, without affecting timber production significantly in the immediate 5-year period. The potential to develop the model as a decision-support tool for forest managers is being explored.

Effect of Growth Rate on Wood Properties of Genetically Improved Sitka Spruce with Special Reference to the Juvenile Core

Dr A Cameron, A K Livingston and Dr J A Petty, University of Aberdeen, & Dr S J Lee, Forest Research

The wood properties of Sitka spruce (*Picea sitchensis*) progenies selected for high growth rate were compared to those of an unimproved control of directly imported material from the Queen Charlotte Islands (QCI), Canada and to other progenies displaying similar growth rates to the QCI material. At age 24 years, when the trees were felled, the fast-growing progenies had a mean volume gain over the slower-growing progenies of around 70%. The fast-growing progenies had larger branches, less

latewood, more compression wood, higher microfibril angles, and greatest incremental growth during the period of juvenile wood production. On the other hand, the fast-growing progenies had smaller grain angles than the QCI material. While mean latewood, tracheid length and density (measured from pith to bark) were lower in the fast-growing progenies than in the other two sets of progenies, this was only statistically significant for latewood.

Incremental growth of fast-growing progenies, during the period to full canopy closure (10-14 years), was significantly higher than in the others. While fast-growing progenies maintained their growth advantage beyond this time, the difference with the slower-growing sets of progenies was small. The presence of relatively high levels of compression wood and branch size in the fast-growing progenies could result in weaker timber and this study has highlighted the need for more effective methods of determining wood properties at an early age in tree breeding programmes.

A Pleasure in Scottish Trees

Alistair Scott and Heather Insh

This book consists of a delightful collection of observations and anecdotes of 100 tree sites across Scotland with many colour photographs. Also included are 22 excellent line drawings by Heather Insh which accurately portray distinctive features of the trees. This is a book which should encourage people to go out and look at these trees and sites. In supporting this publication the Trustees are confident it will encourage greater interest in forestry and notable trees. Copies are available from bookshops and the Scottish Forestry Trust, price £12.99.

Exploration of Public Values

Dr Liz O'Brien, Alice Holt Lodge, Forest Research

This research project undertaken in Vermont, USA sought to provide a greater understanding of the values forests and trees have for people. Qualitative data were collected through a series of group discussions with members of the public and interviews with key representatives from a variety of forestry and environmental organisations within the state. Some comparisons are made between public attitudes to forestry in Vermont and in England.

There is an increasing realisation amongst forestry and environmental professionals in both Vermont and England that the futures of forestry may involve creating forests near to where people live, particularly in more urban settings. English respondents differed from the Vermont groups in the importance they placed on education and local knowledge. This is particularly true for those in urban areas of England who are aware of the lack of opportunity for young people to experience any form of green or natural space. Forests in Vermont were often described as "comforting" and "reassuring", terms that were not used in England. Copies of this report are available free from the Trust.

ONGOING PROJECTS

Genetics of Fragmented Populations of Native Trees (Dr R Ennos and C Bacles, Edinburgh University): This project has the objective of assessing the genetic quality of seed derived from fragmented populations of rowan (*Sorbus aucuparia*) and ash (*Fraxinus excelsior*) in Moffat Dale, Dumfries-shire. The number of adults contributing to seed production is being estimated and gene exchange between remnant populations measured. Results to date for both rowan and ash suggest that the genetic diversity of seeds and seedlings collected in the combined remnant stands are as high as in the adult populations. Mating patterns in the fragmented populations ensure that the genetic diversity present in the remnant population of adults is effectively transmitted to the seeds and seedlings of the next population. Another significant preliminary result indicates that there is substantial exchange of pollen and seed from outside the area of the remnant populations.

Development of a Single Tree Distance Dependent Growth Model for Sitka Spruce (*Picea sitchensis*) and Birch (*Betula spp.*) (Dr A Pommerening and O Davies, University of Wales, Bangor): New growth models are required with greater spatial and temporal resolution to accommodate the greater complexity of continuous cover forestry compared with clear felling silviculture. Experimental and permanent sample plots in planted and semi-natural forest are being established to provide data from a "growth series". This year the emphasis has been on field work and on crown modelling. The model will be validated using independent data and the outputs compared with other growth and yield models used in Britain.

Centre for Timber Engineering (Napier University): A national centre of excellence providing University courses and degrees in timber engineering has been established at Napier University. Market research identified that few engineers are graduates in timber engineering and there is little about designing in timber in curricula of undergraduate Engineering degree courses. Training of timber technicians and operatives is also being undertaken as at present industry's requirements are not being met. As research in timber engineering is fragmented and the results poorly disseminated to industry, importance is attached to establishing research programmes addressing both strategic issues and applied near to market problems. The first intake of students will occur in autumn 2003. The Trustees agreed to provide some financial support over the first three years.

TV Forestry Programmes (Forest Green Mantle Ltd): The Trust is providing support to prepare a series of TV programmes on trees and forests. Enquiries are being made to determine level of interest, and identify other sources of support.

UK Forest Industries Sector Sustainability Strategy (Forestry Industry Development Council): Publication of an action plan with targets, reporting system and review mechanisms to provide a framework for industry to improve its overall sustainability. Each link in the wood-chain from forest to production and distribution of wood based products are being addressed in this sustainability strategy. This document aims to demonstrate the sector's commitment to action and provide a basis for advocacy on behalf of the sector.

John Eadie Memorial Fellowship: This year Dr Jean-Michel Leban from INRA, Nancy was awarded the fellowship to allow him to make several visits and spend time working with scientists at the Northern Research Station, Forest Research to develop and help validate a wood quality model for Sitka spruce (*Picea sitchensis*) based on a model for Norway spruce (*P. abies*) in use in France. Initial work has concentrated on developing and testing a wood density model. Models of stem taper and branching will be developed next, and these will then be integrated with ring width and density models. Dr Leban is giving lectures at Universities and Forest Research and a seminar is planned later in 2003 for forest growers and the sawmilling industry to demonstrate the model and its uses.

RECIPIENTS OF JOHN EADIE MEMORIAL FELLOWSHIPS

A John Eadie Fellowship is awarded normally every two years. The aim of the fellowship is the betterment of British forestry by making use of expertise not readily available here.

- 1998: Professor Richard H Waring, Oregon State University, USA
Dr Euan G Mason, University of Canterbury, NZ
2000: Professor William R Burch, Yale University, USA
2002: Dr Jean-Michel Leban, INRA, FRANCE

COMPLETED PROJECTS

Report Number indicating year, Title, Contractor, Brief Statement and Report Availability

R03/1: Challenges and Possible Futures for Forestry Profession in a Global, Post-Industrial Social Economy. (Prof. W R Burch, Yale University: 2000 *John Eadie Fellow*) His study encompassed field visits to community forests and discussions with interested people and organisations throughout Britain. A major transformation has occurred almost without systematic attention from the professional forestry academic and research establishments. The great diversity, number and range of tree, woodland and forest innovations carried out in cities, towns and countryside have received only marginal attention relative to the magnitude of their possibility. His report is published in *Scottish Forestry* 56 (3).

R03/2: Environmental Impact Assessment in the Forest Sector of Great Britain (I M Gray, University of Wales, Bangor). Eighty nine forest sector environmental statements were reviewed and survey, prediction and assessment techniques employed were examined. A major deficiency was lack of focus on key issues with resources and attention being spread too widely. The efficacy of the screening process and the ability to identify projects with potential impacts need to be improved. In general while most environmental statement authors understood the reasons for, and potential benefits of, environmental impact assessments, they considered that much effort was wasted collecting information not required. Publications being prepared.

R03/3: The Effects of Mechanised Forest Harvesting on Soil Physical Properties (P Carling and M J Wood, Southampton University). For deep peat and shallow peat over gleyed mineral soils potentially adverse structural changes can be largely avoided using brash mats. In recognition of the increasing mechanisation of forest harvesting operations, quantitative guidelines based on pre-harvest soil sensitivity analyses and attention to maximising efficacy of brash mats have been developed. Article published *Forestry & British Timber* July 2001, *International Journal of Forest Engineering* 2002, and *Forestry* 76.

R03/4: Immuno-Contraception of Grey Squirrels (H Moore, Sheffield University and B Mayle, Forest Research). Partnership of funders set up to test a technique of treating squirrels with a protein that would trigger the females' immune systems to reject the males' sperm, thereby preventing pregnancy. The project was successful in showing an immune response, but it was not sufficiently powerful nor long lasting to cause a reliable reduction in fertility.

R03/5: A Study into the Suitability of Birch for Processing (B Varley, TRADA Technology Ltd and N Wade, Aberdeen University). Birch logs were collected from sites in GB to evaluate suitability for manufacturing specific sawn products (flooring, furniture framing and glued laminated timber). Trials demonstrated that UK birch is suitable for furniture framing and flooring for normal pedestrian traffic - *Scottish Forestry* 55 and *TRADA woodInformation* 2001.

R03/6: *Peridermium pini* in North East Scotland (S Woodward and D Mosley, Aberdeen University and D. Miller, MLURI) Geographic information system determined the major environmental, edaphic and climatic factors influencing disease incidence. Mean disease incidence was 4.9%. No disease was found in the 1-10 year age class, whereas over 7% of trees were infected in 41-50 year class. Disease incidence also was highest in stands growing on wet soils. Estimation of timber losses confirmed that significant losses would be incurred in most sites if no salvage thinnings were undertaken.

R03/7: Seed Collection of Silver Birch Populations in England and Wales (R Worrell, D Malcolm, R Ennos, Edinburgh University). There is no definitive information on the adaptive variation of any native broadleaved species of potential forestry importance in Britain. Collections were made from 24 sites in 2001 to establish a comprehensive provenance trial of silver birch to supplement seed already collected in Scotland.

R03/8: Proof of Concept Study for a UK Forest Industries Centre (Ballantyne MacKay Consultants, Edinburgh). The potential for a Forest Industries Centre that would be a visionary statement building demonstrating efficient and effective use

of UK grown timber and manufactured processed products was explored. No prime user around which the project could be structured could however be identified. A copy of the report is available free.

R02/1: A Decision Framework for Public Involvement in Forest Design Planning. (M Hislop, Forest Research and M Twery, U.S.D.A. Forest Service). Decision framework developed for involvement of the public in forest planning processes in an objective and logical way.

R02/2: Certification of Genetically Modified Forest Plantations. (Prof S Strauss, Oregon State University, USA). Senior author in preparing a review of risks and benefits of using genetically modified trees for industrial plantations. "Certification of Genetically Modified Forest Plantations" published in *International Forestry Review* 3.

R02/3: Public Roading in Sweden – The Use of Gravel Roads . (Joint Visit by Forestry Commission, Forest Industry and Local Authority Representatives). Recommendation made that gravel roads and timber bridges should be designed to be "Fit for Purpose" and small-scale trials should be undertaken to assess their suitability for application in Scotland.

R02/4: Modification of Nitrogen Content and C:N Ratio of Sitka Spruce Timber by Kiln and Air Drying. (Dr C Payne, University of Abertay-Dundee). Kiln drying reduced the total nitrogen content of the sapwood and heartwood by about 30% within the first 24 hours of the drying schedule. The nitrogen redistribution observed was not of sufficient magnitude to cause an increase in susceptibility to fungal degrade. Published in *Forestry & British Timber May 1997, Holzforschung* 56 and *Forest Products Journal* 51.

R02/5: International Student Symposium on "Forest Ecology: A Move Towards Sustainability and Community Involvement". (Edinburgh University). Students from 27 countries discussed challenges posed by sustainable forest management practices, demands of society, and environmental constraints. Contact IERM, Edinburgh University for copies.

R02/6: IPD Forestry Index. (Investment Property Databank, 7/8 Greenland Place, London). Average return of -3% per year over the three years compares with 19.9% per year reduction in timber prices since 1996. Copies of the IPD Forestry Index may be obtained from the address above.

R01/1: Locations of Populations of Scottish Native Trees. (Scottish Forestry Trust). A published report of approximately 1,100 populations and literature review is available from the Trust price £12.50.

R01/2: Damping-Off Oomycetes in Natural Regeneration of Scots Pine. (Aberdeen University). Study on the presence and pathogenicity of fine root pathogens in soils of Scots pine forests. Short final report is available from the Trust.

R01/3: Log Quality Assessment in Sitka Spruce in South Scotland. (Forest Research) Decreasing straightness scores associated with greater spacing, higher yield class, increase in elevation and windiness, and propinquity to planting year. Thinning increased straightness score. Published article on "Changes in Stem Straightness" in *Scottish Forestry* 53.

R01/4: Timber Degrade in Sitka Spruce (*Picea sitchensis*) due to Bark Stripping. (Centre for Ecology and Hydrology). The reduction in net value due to perceived bark-stripping over 20 year period at Glenbranter Forest was of the order of 10% of the net value of the crops. *Forestry & British Timber Sept 2001*.

R01/5: Broadleaved Timber Production Forecasting in Britain. (Oxford University). Factors affecting production reviewed. Short-term forecasts using the Forestry Commission's Woodland Grant Scheme database to predict felling areas suggested. Unpublished report.

R01/6: Using Scottish Hardwoods: Design Competition and Conference. (Forestry Commission) A design competition for students and a conference on use of Scottish hardwood timber in construction and joinery were supported. Publication "Designing with Timber" is available from the Forestry Commission.

R01/7: Long Term CO₂ Sequestration by Sitka Spruce. (Edinburgh University). Three-year study of carbon sequestration by Sitka spruce in central Scotland. Published in *Scottish Forestry* 57.

R00/1: A Process Model Analysis of Environmental Limitations on the Growth of Sitka Spruce Plantations in Great Britain. (Professor R H Waring, 1998 *John Eadie Fellow*). A simplified physiologically-based model was used to assess growth limitations imposed by various site factors across Britain. Published in *Forestry* 73.

R00/2: Creation of Decision-Support Tools for Plantation Establishment. (Dr E G Mason, 1998 *John Eadie Fellow*). Model for *Pinus radiata* used to examine responses of Sitka spruce to establishment treatments using data from experiments in the

Borders /Kielder region. Unpublished report available.

R00/3: The Potential for Extending Forest Cover in Grampian. (R Lorrain-Smith, M Bell, D Rees and A Davis). The potential transfer of land from agriculture to forestry in the Grampian Region was examined. Full report available from the Trust priced £5.50. Publication in *Scottish Forestry* 52 and *Quarterly Journal of Forestry* 1998.

R00/4: David Douglas Bi-Centenary Trail at Dawyck Botanic Garden. (Royal Botanic Garden, Edinburgh). Trail to commemorate the legacy of David Douglas in introducing so many important forest species into this country.

R00/5: Selection of Phenotypically Superior Oaks for Use in an Improvement Programme. (Oxford University) Trees selected for oak genetic improvement programme. Publication in *Quarterly Journal of Forestry*

R00/6: Forestry: An Economic Development Opportunity for North Scotland. (Timber Growers Association and Forestry Contracting Association). Seminar on roundwood marketing, economic development and transport development was supported.

R00/7: Control of *Heterobasidion annosum* in Sitka Spruce. (Forest Research). Short visit to look at "Rotstop" to control *H. annosum* at the Danish Forest and Landscape Research Institute in May 1999. Brief report available.

R99/1: Book "Tall Trees and Small Woods". (Dr W E S Mutch). This book on woodland management is recommended for people who are not fully familiar with all the technical aspects of forestry. Available from the Trust and bookshops at £20.

R99/2: Flowering and Seed Production of Aspen in Scotland. (Dr R Worrell). Results published in *Forestry* 72.

R98/1: An Investigation into the Stability of Irregular Forests Using a Wind Tunnel. (Forest Research and Oxford University). Study examined how damaging wind loads develop within tree canopies. Published in *Boundary-Layer Meteorology* 102, 2002.

R98/2: Silvicultural Systems of Lower Saxony and the Netherlands. (Ms J Dunne). Author looked at transformation of forests to continuous cover management in those countries. Short unpublished report available.

R98/3: Ecological Site Classification for British Woodlands. (Forest Research and Edinburgh University). Published in *Scottish Forestry* 52 and *Forest Ecology and Management* 140.

R98/4: The Effect of Nursing Mixtures on Stem Form, Crown Size and Wood Quality of Sitka Spruce. (Aberdeen University). Published in *Forest Ecology and Resource Management* 122.

R98/5: Tree Trunk Educational Resources. (Forestry Commission). Programme of educational information related to community woodlands, multipurpose forests, native woodlands and uses of timber developed. Up to date information on www.forestry.gov.uk/treetrunk launched June 2001.

R98/6: Timber Frame 2000. (Building Research Establishment and TRADA Technology). The Trust provided financial support to supply home grown softwood to construct and test a six-storey timber frame building constructed and range of tests carried out. Publication being prepared.

R98/7: Availability Forecast for the Principal British Hardwoods. (Timber Growers Association). Desk-based project to forecast 20-year availability of the principal British hardwoods. Report available from the Trust at £5.50. Published in *Timber Grower Spring* 1998.

R97/1: Cashel - Forestry for a Thousand Years. (Royal Scottish Forestry Society Forest Trust). Supported establishment of a native woodland on the eastern shore of Loch Lomond.

R96/1: Tolerance of Scots Pine to Low Root Temperatures. (Forest Research). Differences between provenances were observed in susceptibility to frost damage to roots. Published in *Forestry* 70 and *Botanical Journal of Scotland* 51.

R96/2: Socio-Economic Factors Influencing the Decision to Market Timber in the Private Sector. (John Clegg & Co, and Firm, Crichton Roberts Ltd). Main conclusion was that woodland owners could benefit from being more fully supported in technical and marketing skills. Report available.

R96/3: Conservation of Scottish Forestry Soil. (NERC). This study has provided data on the theoretical basis of the Forests and Water Guidelines. Published in *Hydrological Processes* 11 and *The Science of the Total Environment* 265.

R95/1: **Habitat and Diet of Capercaillie in a Commercial Plantation in Central Scotland.** (NERC). The diet of Capercaillie in woodland of Sitka spruce with larch was examined. Published in *Forestry* 69 and *FC Bulletin* 113.

R95/2: **Control of Variation in Density in Sitka Spruce.** (University of Wales). Examination of underlying causes of variation in wood density. Published in *Quarterly Journal of Forestry* 89 and *Forestry* 70.

R95/3: **Future Location of Forestry in England and Wales, with Especial Attention To Transfer of Lowland Agricultural Land.** (Forestry Industry Council). System developed to identify the extent, location and type of land likely to be available for profitable transfer from farming to forestry. Published in *Quarterly Journal of Forestry* 1998.

R95/4: **Video – “Forests for All Forever”.** (RSFS). Copies available from RSFS.

R94/1: **An Investigation into the Influence of Site Quality on the Productivity of a Range of Major Tree Species.** (Macaulay Land Use Research Institute and Forestry Commission Research Division). Productivity of Douglas fir, Japanese larch and Scots pine on better quality sites examined. Report available.

R94/2: **Net CO₂ Uptake of Scottish Forests.** (Edinburgh University). Development of a system for the measurement of CO₂ exchange by forest stands.

R93/1: **Molecular Methods for the Detection and Identification of *Heterobasidion annosum*.** (University of Abertay-Dundee). Study investigated immunology methods in live trees and harvested wood. Chapter in book, *Modern Assays for Plant Pathogenic Fungi*, Academic Press.

R93/2: **Private Forestry Policy in Western Europe.** (A J Grayson). Policy implementation and role of financial incentives in Britain, Western Europe and some other countries including Australia and Russia are discussed. Book published by CAB International.

R92/1: **Development of a Transformation from Uniform Plantations to an Irregularly Structured Forest.** (Edinburgh University). Enumeration survey 40 years into transforming a uniform plantation to an all-aged forest of mixed species. Published in *Forestry & British Timber* Feb 1993.

R92/2: **The Mechanism of Increased Nitrogen Uptake by Spruce in Mixed Species Stands.** (Aberdeen University). Examined the mechanisms by which the “extra” nitrogen, for improved growth of spruce when grown in mixture with Scots pine, lodgepole pine or larch.

R92/3: **“Shake” in Oak.** (Oxford University). Causes and an evaluation of its economic consequences. Published in *Timber Grower* 128, *Commonwealth Forestry Review* 65.

R92/4: **Survey of Squirrels in Britain.** (Timber Growers Association). Questionnaire regarding the status of both the red and grey squirrels, grey squirrel control, and damage. Report available from Forestry and Timber Association.

R91/1: **The Commercial Potential of Birch in Scotland.** (The Forestry Industry Council). Presentations to symposium held in May 1991. Copies price £5 from the Trust.

R91/2: **The Ecology of the Great Spruce Bark Beetle (*Dendroctonus micans*) and its Predator, *Rhizophagus grandis*.** (Forest Research) Development of a monitoring system for *R.grandis* and nature of tree resistance to attack by *D. micans*. Published in *Chemoecology* 2

R91/3: **Development of a Computer Programme for Forecasting Conifer Wood Production in U.K.** (Forestry Industry Council). Model developed to assess impact of different planting rates on future wood supplies.

R91/4: **The Forestry Industry and the Greenhouse Effect.** (University College London). Economic aspects of role of forestry. Policies aimed at reducing carbon emissions, and principles on which carbon taxes and credits might be based. Published report is available.

R91/5: **Designated Areas in Scotland.** Descriptive accounts of the main designated areas with maps of their locations. Publication £7.95 from the Trust.

R90/1: **Yield Class and Windthrow Hazard Characteristics of Forestry in the Grampian Region.** (Macaulay Land Use

Research Institute). Predictive models of forestry potential of Grampian presented as maps of yield class and windthrow hazard.

R90/2: The Influence of Wide Spacing of Trees on the Interception of Radiation and the Growth of Trees and Pasture. (Edinburgh University). Light interception by the tree canopy and pasture grasses, and relationship to growth of both components in silvopastoral systems.

R89/1: Impact of Forestry on Output and Employment in U. K. and its Member Countries. (Fraser of Allander Institute). Impact of forestry on output and employment on the aggregate UK economy and its member countries. Results in *Regional Studies* 26.

R88/1: Production Forecasting for Private Sector Scottish Forestry. (Aberdeen University). Survey of the private sector growing stock in Scotland, and estimated actual production by the private sector.

R88/2: Current Knowledge and Perceptions of Forestry. (Valin Pollen Ltd and Consensus Research). Study identified forestry's key audiences, their knowledge and perceptions of the forestry industry. Report available.

R87/1: The Economic Effects of the "Guidelines for the Management of Broadleaved Woodland". (Timber Growers Association).

R87/2: Stirling Forestry Employment Study. (Firn, Crichton Roberts Ltd).

THE SCOTTISH FORESTRY TRUST

AUDITED ACCOUNTS and FINANCIAL STATEMENTS

For the year ended 31 March 2003

THE SCOTTISH FORESTRY TRUST

NOTES TO THE FINANCIAL STATEMENTS

For the year ended 31 March 2003

1. Accounting Policies

Basis of accounting

The financial statements have been prepared on the historical cost convention as modified by the revaluation of investments and are in accordance with applicable accounting standards and the 2000 Statement of Recommended Practice "Accounting and Reporting by Charities".

Fixed assets

Fixed assets are included in the balance sheet at cost.

Depreciation

Depreciation is provided on all tangible fixed assets, at rates calculated to write off the cost less estimated residual value of each asset evenly over its expected useful life as follows:

Office	- 20%
Computer equipment	- 33%

Investments

Investments are included in the balance sheet at their market value at the balance sheet date. Gains and losses arising are recognised in the income and expenditure account and statement of financial activities.

Investment income

Investment income is recognised when received together with the related recoverable tax credits.

Donations

Donations are recognised when receivable.

Value Added Tax

The company is not registered for Value Added Tax and accordingly expenditure is stated gross.

Trust funds

The Trust has a General Fund which is split between capital and revenue. Under the Trust Deed, the Trustees are empowered to use both capital and revenue for any of the purposes of the Trust and so accumulate revenue. This is modified by the Trust rules to require the Trustees not to so deplete capital that the Trust cannot act properly as a charitable organisation. The Trust also has a designated fund, which may be used by the Trustees to fund market research and publicity.

2. Project grants	2003	2002
	£	£
Birch Stem Form	11,600	-
Use of Genetically Modified Trees	9,471	2,000
Forest Industries Centre	-	4,280
Immuno-Contraception of Grey Squirrels	-	10,101
Birch Seed Collection	-	5,500
Harvesting & Soil Properties	-	4,390
Management Strategies for Capercaillie in Commercial Forests	4,600	4,600
The Suitability of Birch for Processing	-	5,000
Wood Properties of Genetically Improved Sitka Spruce	5,680	12,188
Genetics Fragmented Populations	-	9,471
<i>Peridinium pini</i> in North East Scotland	-	6,242
Environmental Impact Assessment	-	800
Pleasure in Scottish Trees	875	4,388
TV Forestry Series	2,375	432
Sitka & Birch Model	9,336	4,677
Centre for Timber Engineering	4,000	-
Exploration of Public Values	2,750	-
Sector Sustainability Report	3,000	-
John Eadie Fellowships	4,000	4,200
	<u>57,687</u>	<u>78,269</u>

THE SCOTTISH FORESTRY TRUST

NOTES TO THE FINANCIAL STATEMENTS (cont'd)

For the year ended 31 March 2003

3. Staff costs	2003 £	2002 £
Director's salary	15,000	15,000
Social security	1,225	1,245
	16,225	16,245
	=====	=====

The average number of employees during the year was:	No.	No.
Administration	1	1
	—	—

During the year the Trustees received no remuneration, but were reimbursed expenses totalling £1,059 (2002: £1,802).

No employee received emoluments over £50,000.

4. Management and administration expenditure	2003 Total £	2002 Total £
Employment costs (Note 3)	16,225	16,245
Office costs	11,702	10,111
Publicity	-	6,414
Trustee expenses	1,059	1,802
Professional fees	1,999	2,431
Finance costs	1,140	4,988
Annual report costs	955	6,764
Depreciation	264	264
	33,344	49,019
	=====	=====

Net outgoing resources is stated after charging:	2003 £	2002 £
Operating leases	3,200	3,200
Auditors remuneration - audit fee	881	961
- other	-	1,000
Depreciation	264	264
	=====	=====

THE SCOTTISH FORESTRY TRUST

NOTES TO THE FINANCIAL STATEMENTS (cont'd)

For the year ended 31 March 2003

5. Fixed Assets

	Office Equipment £
Cost	
At 1 April 2002	2,935
Additions	-
Disposals	-
At 31 March 2003	2,935
Depreciation	
At 1 April 2002	2,399
Charge for year	264
At 31 March 2003	2,663
Net Book Value	
At 31 March 2003	272
	=====
At 31 March 2002	536
	=====

6. Investments

	2003 £	2002 £
Market value at 1 April 2002	2,175,884	2,385,934
Additions at cost	366,634	533,075
Disposals	(427,989)	(657,072)
Net unrealised losses on revaluation	(480,269)	(86,053)
Market value at 31 March 2003	1,634,260	2,175,884
	=====	=====
Historical cost at 31 March 2003	1,837,912	1,822,949
	=====	=====

Investments which exceed 5% of the total portfolio valuation are as follows:

	£
Treasury 8.5% 2007	83,834
Conversion 9.5% Stk 2005	155,566
First State Inv UK Corporate Bond	108,524

7. Debtors

	2003 £	2002 £
Taxation recoverable	1,598	658
Prepayments	42	-
Accrued income	-	2,490
	1,640	3,148
	=====	=====

THE SCOTTISH FORESTRY TRUST

NOTES TO THE FINANCIAL STATEMENTS (cont'd)

For the year ended 31 March 2003

8. Creditors	2003 £	2002 £
Other creditors	1,131	1,136
Accruals	8,342	9,241
	9,473	10,377
	=====	=====

9. Movement in Funds

	Balances at Incoming 1 Apr 2002 £	Outgoing Resources £	Investment Resources £	Losses £	Balances at Transfers £	31 Mar 2003 £
Unrestricted funds						
Revenue fund	82,338	78,906	(105,448)	-	16,938	72,734
Capital fund	2,233,650	-	(976)	(557,137)	(16,938)	1,658,599
Designated Publicity Fund	12,968	-	-	-	-	12,968
	2,328,956	78,906	(106,424)	(557,137)	-	1,744,301
	=====	=====	=====	=====	=====	=====

10. Analysis of Net Assets Between Funds

	Revenue Fund £	Capital Fund £	Designated Publishing Fund £	Total £
Tangible fixed assets	272	-	-	272
Investments	-	1,634,260	-	1,634,260
Current assets	81,935	24,339	12,968	119,242
Current liabilities	(9,473)	-	-	(9,473)
Total net assets	77,734	1,658,599	12,968	1,744,301

11. Commitments

The Trust has made commitments to pay grants, conditional on the research continuing and satisfactory reports being received by the Trustees, as follows:

Financial Year £	Total £
2003/04	57,553
2004/05	16,733
2005/06	1,500

12. Related party transactions

The Trust rents office accommodation and receives administrative support from the Forestry & Timber Association (FTA) in accordance with an agreement dated 22 October 2002. Mr Robert Scott, a Trustee of The Scottish Forestry Trust (appointed 1 January 2003) is chairman of the FTA. In the year ended 31 March 2003, the Trust paid office rent of £3,200 (2002: £3,200) and administrative support costs of £5,640 (2002: £5,640).

INDEPENDENT AUDITORS' REPORT TO THE TRUSTEES OF THE SCOTTISH FORESTRY TRUST

We have audited the accounts of the Scottish Forestry Trust for the year ended 31 March 2003 set out on pages 15 to 22. These accounts have been prepared under the historical cost convention as modified by the revaluation of certain fixed assets and the accounting policies set out therein.

This report is made solely to the charity's trustees, as a body, in accordance with Section 7 of the Charities Accounts (Scotland) Regulations 1992. Our audit work has been undertaken so that we might state to the charity's trustees those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of trustees and auditors

As described in the Statement of Trustees' Responsibilities the charity's trustees are responsible for the preparation of the accounts in accordance with applicable law and United Kingdom Accounting Standards.

Our responsibility is to audit the accounts in accordance with relevant legal and regulatory requirements and United Kingdom Auditing Standards.

We report to you our opinion as to whether the accounts give a true and fair view and are properly prepared in accordance with the Law Reform (Miscellaneous Provisions) (Scotland) Act 1990, the Charities Accounts (Scotland) Regulations 1992 and the constitution of the charity. We also report to you if, in our opinion, the Trustees' Report is not consistent with the accounts, if the Trust has not kept proper accounting records, if we have not received all the information and explanations we require for our audit, or if information specified by law regarding trustees' remuneration and transactions with the Trust is not disclosed.

We read the Trustees' Report and consider the implications for our report if we become aware of any apparent misstatements within it.

Basis of audit opinion

We conducted our audit in accordance with United Kingdom Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the accounts. It also includes an assessment of the significant estimates and judgements made by the trustees in the preparation of the accounts, and of whether the accounting policies are appropriate to the charity's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the accounts are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the accounts.

Opinion

In our opinion the accounts give a true and fair view of the state of the Charity's affairs as at 31 March 2003 and of its incoming resources and application of resources including, in its income and expenditure account, the surplus or deficit for the year then ended and have been properly prepared in accordance with the Law Reform (Miscellaneous Provisions) (Scotland) Act 1990, the Charities Accounts (Scotland) Regulations 1992 and the Trust Deed.

Chiene & Tait CA
Registered Auditors
61 Dublin Street
Edinburgh
EH3 6NL

23rd July 2003

SELECTED ITEMS FROM THIS YEAR'S REPORT



Dr Jean-Michel Leban from INRA, France was awarded the 2002 *John Eadie Memorial Fellowship* to develop a timber quality model for Sitka spruce.



Log quality is the major research area supported, but projects on genetics, conservation, social forestry and education are also included.



Five major projects were completed and five are continuing.



Although a reduced number of projects is being supported, the portfolio is diverse and relevant in addressing today's problems.



The under spend of £19,000 on projects and research will be added to the budgets for the next two years to provide approximately £80,000 in each year.



The market value of investments fell by 23.1% over the year; net assets at 31 March 2003 were £1,744,301.



Expenditure on administration, management and on projects was reduced overall by 32%.



The principal means of disseminating news of the Trust and reports is via the web site, www.scottishforestrytrust.org.uk.