

FORESTRY
COMMISSION

*67th Annual Report
and Accounts
1986-1987*

Forestry Commission
ARCHIVE

FORESTRY COMMISSION

*67th Annual Report
and Accounts
for the year ended
31 March 1987.*

together with the

Comptroller and Auditor General's Report on the Accounts

*Presented to Parliament in pursuance of Section 45 of
the Forestry Act 1967 and Section 5 of the Exchequer
and Audit Departments Act 1921*

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FORESTRY COMMISSION

231 Corstorphine Road
Edinburgh EH12 7AT

21 December 1987

To:

The Rt Hon MALCOLM RIFKIND QC, MP,
Secretary of State for Scotland

The Rt Hon JOHN MACGREGOR OBE, MP,
Minister of Agriculture, Fisheries and Food

The Rt Hon PETER WALKER MBE, MP,
Secretary of State for Wales

Gentlemen

In pursuance of Section 45 of the Forestry Act 1967, I have the honour to transmit the 67th Annual Report of the Forestry Commissioners which covers the year ended 31 March 1987.

I am, Gentlemen,
Your obedient Servant,

(Sgd) DAVID MONTGOMERY
Chairman

The Forestry Commissioners, Heads of Divisions and Conservators at 31 March 1987

Forestry Commissioners

Sir David Montgomery Bt, JP, DL, *Chairman*
Mr G. J. Francis, *Deputy Chairman and Director General*
Mr R. T. Bradley
Mr I. D. Coutts CBE
Mr D. L. Foot
Mr J. Forbes
Captain W. F. E. Forbes DL
Mr G. O. Hutchison
Mr J. D. Pollock
Mr D. T. J. Rutherford
Mr C. R. Woosnam

Heads of Divisions

Secretary: Mr P. J. Clarke
Director, Harvesting and Marketing: Mr S. E. Quigley
Director, Research: Mr A. J. Grayson
Director, Planning & Surveys: Mr D.S. Grundy
Director, Estate Management: Mr R. P. Illingworth
Director, Private Forestry and Services: Mr A. A. Rowan
Director, Personnel: Mr C. W. Simmonds
Controller of Finance: Mr C. F. Turquand
Head of Silviculture: Mr J. R. Aldhous
Head of Data Processing: Mr E. K. Arthurs
Chief Engineer: Mr R. M. Hay
Head of Information: Mr J. F. Lindsay

Conservators

England

North: Mr A. Rix
East: Mr M. Dinning
West: Mr J. R. Fletcher

Scotland

North: Mr J. Atterson
Mid: Mr A. Morrison
South: Mr G. G. M. Taylor

Wales: Mr D. Y. M. Robertson

Note: The addresses of the main Forestry Commission offices appear on the inside back cover.

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Addresses of the Main Offices of the Forestry Commission

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GENERAL REVIEW



GENERAL REVIEW

WOOD PRODUCTION AND WOOD PROCESSING

State of the Wood Market

- 1 There was a healthy international market for forest products in 1986, assisted by a real growth of over 2 per cent in the gross national product of the major developed economies and by reductions in the price of oil and other commodities. Against this international background, all the main market sectors in which the British wood-products industry has a share showed significant growth. Altogether, the value of sawn wood, paper and paperboard, and wood-based panel products manufactured by the domestic wood-processing industry from timber grown in British forests now exceeds £400 million annually, representing an important contribution by the forestry industry to import savings.
- 2 Total UK consumption of paper and paperboard products increased for the fourth successive year, reaching 8 million tonnes — the highest level since 1974. Domestic supply to this market rose by 6 per cent, while imports increased by 3 per cent. In the particleboard market, domestic consumption grew by 5 per cent over 1986, the UK industry producing just under 1 million cubic metres and increasing its market share to just over 39 per cent. Equally encouraging was the level of demand for softwood sawn timber, where total consumption at just over 8.3 million cubic metres was at the highest level since 1973. While domestic production in this sector held firm at about 1.3 million cubic metres, the rise in total consumption resulted in a decrease in the British producers' share of the total market from 18 to 16 per cent. The growing importance of domestic production is nevertheless striking, given that it accounted for only 2 per cent of consumption in 1973.
- 3 The total volume of wood harvested in Commission forests was 3,329,000 cubic metres, an increase of 7 per cent over the previous year. Further details are given in paragraphs 91 to 100.

Developments in the Wood Processing Industries

- 4 It is with much pleasure that we record the decision by the Kymmene Corporation of Finland (incorporating Oy Kaukas Ab) to proceed with the building of an integrated pulp and paper mill at Irvine in Ayrshire. This was foreshadowed in our report last year, and finally announced in April 1987. The mill — which will be operated by a subsidiary of Kymmene, known as Caledonian Paper plc — will produce approximately 200,000 tonnes of lightweight coated paper each year, using as raw materials spruce roundwood, china clay and imported chemical pulp. We have undertaken to supply on a long-term contract approximately half the projected roundwood requirement, which will come mainly from forests in the west of Scotland. This investment of about £215 million is the largest, single inward investment ever attracted to Scotland.
- 5 There have also been further developments in the wood-based panel sector. The year saw Caberboard install a new press on their particleboard line at Cowie in Stirlingshire, and they also announced plans to install a second medium density fibreboard line at the same plant which was planned to be in operation in 1988. In Wales, Kronospan commenced work on a fourth particleboard line at Chirk in Clwyd.

Future Timber Demand

- 6 During the year, the Timber Committee of the UN Economic Commission for Europe and the FAO European Forestry Commission published the results of their joint study *European Timber Trends and Prospects to the Year 2000 and Beyond*. This predicts that the consumption of sawn wood, wood-based panels, and paper and paperboard will increase in total at a rate of between 0.5 per cent and 3 per cent per annum to the turn of the century, the strongest growth being in the paper and board sector. While Europe will remain a large net importer of forest products, the study forecasts that production will increase as a result of expanding forest resources in a number of countries, including Britain. Overall, the study foresees a balanced supply and demand outlook to the year 2000, suggesting a continuation of the competitive market environment being experienced in the present decade.

Britain's pulp and processing industry is now well placed to benefit from this forecast increase in European demand. Since the economic recession in the early years of the decade, the Commission's promotional strategy — which has had the full support of the Industry Departments, the various development agencies and the private forestry sector — has attracted new investment of over £600 million across the entire spectrum of the wood-processing industry. This investment would not have been possible without the increasing supply of wood being harvested from British forests as a consequence of the planting policies of earlier decades. We believe that the guarantees of wood supply that we have been able to provide through long-term contracts have been a decisive influence in attracting major capital investments, such as those by the Kymmene Corporation, the Shotton Paper Co and Thames Board, which have been detailed in our reports over the past few years.

7

PUBLIC ACCOUNTS COMMITTEE

The Director General, as the Commission's Accounting Officer, was examined by the Public Accounts Committee on 4 February 1987 on the Comptroller and Auditor General's report *Review of Forestry Commission Objectives and Achievements*, the 'Summary and Conclusions' section of which is reproduced at Appendix VI. Questioning by members of Committee covered most of the matters mentioned in the report, with special attention being paid to the rates of return on new investment, particularly in north Scotland, the quantification of costs and benefits of the Commission's secondary objectives notably in the fields of rural job creation and the environment, and the encouragement of new downstream processing.

8

There have been more recent developments falling outside the period covered by our present report on which detailed commentary will be included in the report for 1987-88. We think it right to place on record, however, that the Public Accounts Committee's findings were reported to the House on 29 April 1987* and that the Treasury minute giving the Government's response was presented on 28 October 1987**.

9

FINANCE

This year, we devote a complete section of our report to this subject (pages 40 to 44). The paragraphs below summarise the main features of the third quinquennial revaluation of the Commission's assets and review of performance against target rates of return. More details are given in the Finance section.

10

We have now reached the end of the third quinquennium since the capital reconstruction of our accounts in 1972, and it seems appropriate to restate briefly the basis of accounting that we have been following since then. Traditional methods of assessing profitability could not be introduced in 1972 because our plantations were relatively immature and operations were not self-financing. This is still the case. Alternative methods therefore had to be found to identify the surplus that the Commission was accruing through the inherent growth in the value of the timber crop. An expectation basis was chosen for valuing the Commission's plantations, which required future income and expenditure to be estimated until the time of clear felling and discounted at a specified rate of interest to the present day. The interest rate was set by Government at 3 per cent. This became the target rate for all subsequent new investment in plantations, with subsidies being claimed where investments could not earn that rate — for example, for planting in remote areas or with broadleaves. Performance has subsequently been assessed by revaluing the plantations at five-yearly intervals and comparing the change in successive valuations with the income and expenditure in those periods. Interim measurements of performance have been provided in the intervening years by comparisons of actual costs and income with the cash flows (standards) built into the valuation at the start of the quinquennium, with variances identifying the excess or shortfall against the 3 per cent target.

11

* Twelfth Report from the Committee of Public Accounts: Session 1986-87, HC185, HMSO, £4.20 net.

** Treasury Minute on the 11th to 16th, 18th to 19th Reports from the Committee of Public Accounts: Session 1986-87, HC236, HMSO, £2.90 net.

- 12 Details of the 1987 revaluation and review of performance appear at paragraphs 156 to 161 and in the Special Notes to the Accounts on pages 68 to 71. The main conclusions to be drawn are:
- a during the 1982-87 quinquennium the surplus achieved in real terms amounted to £85.1 million over the standards set. This was chiefly due to the higher level of timber prices achieved and to improvements in harvesting productivity. Reassessments of cash flows beyond 1987 have resulted in a reduction of £17.0 million in the plantation valuation. The total surplus expected to be achieved between 1982 and the end of the rotation therefore exceeds the 3 per cent target by £68.1 million. This represents an overall return of 3.1 per cent after taking credit for subsidies, and 3.0 per cent without subsidies. Similar calculations of rates of return since the capital reconstruction in 1972 show returns of 3.1 per cent and 2.7 per cent respectively;
 - b the projected rate of return on new planting and restocking in the next review period — which will cover three years instead of five as in the past — is approximately 2½ per cent compared with 2¼ per cent from 1982-87 and 1¾ per cent from 1977-82.
- 13 The format of our Accounts will be amended from next year, with the replacement of the Plantation and Trading Accounts by an Operating Account. The principal aim of the revised format will be to identify more clearly the surplus earned by the Commission through the increase in the value of its growing stock. It is of interest to note that, had the Operating Account been in use in the last quinquennium, it would have shown a retained surplus at 31 March 1987 of approximately £264 million after claiming subsidies, and £227 million without.

FORESTRY AND THE ENVIRONMENT

The Commission's Nature Conservation Policy

- 14 Last year we revised the Commission's nature conservation policy to reflect our new statutory duty — now set out in section 1(3A) of the Forestry Act 1967 — to endeavour to achieve a reasonable balance between the interests of forestry and those of the environment in discharging our various functions. We have since augmented our environmental staff by the appointment of a Recreation Officer at Headquarters, four more landscape architects, three of whom are based in Conservancies, and two additional ecologists in the Wildlife Conservation Branch of Research Division.
- 15 The Commission's Forest Districts maintain conservation plans which are being continuously developed to enable us to identify, safeguard and manage all areas of conservation interest with the aim of increasing the conservation value of the Commission's forest estate as a whole. We have been greatly assisted in this work by the information and practical advice received from many individuals and local representatives of a wide range of conservation organisations. Local conservation committees have been set up in most Forest Districts to assist in this process, and have been found to be a most valuable forum for discussion and exchange of helpful information.
- 16 In June 1986, the Director General signed a joint declaration of intent with the Director General of the Nature Conservancy Council relating to the management of the 344 Sites of Special Scientific Interest (SSSIs) on Commission land. Such management will be directed to maintaining the conservation value for which the sites were designated, and plans are now being prepared for each of them to secure this objective. They include internationally-renowned sites such as the ancient woodlands of the New Forest, the native pinewoods of Glen Affric and of the Black Wood of Rannoch, the oakwoods of Loch Lomond, and many others.
- 17 We are continuing with our long-established policy of undertaking practical conservation projects throughout the country, with particular emphasis on management methods which can be applied generally. One example is the widening and occasional mowing of alternate edges of forest rides to produce a range of herb and shrub habitats favouring butterflies, moths and flowering plants. A site in the West Country treated in this way has resulted in a significant increase in the number of butterflies, with as many as 35 species being found. Other projects included the construction of ledges below bridges and culverts to provide

nest sites for dippers, a bat box scheme run in conjunction with the Scottish Wildlife Trust, habitat management to protect the rare sand lizard and smooth snake in Dorset, and numerous others involving local wildlife groups. A number of wildlife research projects have been initiated, some of which are already making a contribution to improved conservation management in our forests. Further details are given in paragraph 121.

Public enjoyment of wildlife is an important part of our environmental work. A highly successful project was mounted with the Royal Society for the Protection of Birds at Symond's Yat in the Forest of Dean, when well over 40,000 visitors were able to view in safety a pair of peregrine falcons nesting on the cliffs. Other projects for showing wildlife to visitors include a nature trail in Suffolk for wheelchair users. 18

During the past two years there has been considerable concern expressed by nature conservation bodies — notably the Nature Conservancy Council and the Royal Society for the Protection of Birds — over afforestation in the low-lying peatlands of Caithness and Sutherland known as the flow country, because of their fears that forestry poses a significant threat to the conservation interest there. In our last report we indicated that, while afforestation proposals in areas designated as SSSIs are automatically the subject of discussions with the Nature Conservancy Council, we had, since early 1985, extended these consultations to sensitive sites which the Council were proposing in due course to designate as SSSIs. More recently, the Council have widened the area of their concern to the whole of Caithness and Sutherland. In response to this further extension of the conservation interest, the then Parliamentary Under Secretary of State at the Scottish Office, Mr John MacKay MP, announced in the House of Commons on 17 February 1987 that:- 19 *Planting in Caithness and Sutherland*

“the Forestry Commission has decided to extend its consultation arrangements with the Nature Conservancy Council to cover all grant applications arising in the local authority districts of Caithness and Sutherland including those still awaiting approval. This will allow time for the nature conservation interest in this unique area to be more clearly defined by the Council.”

We hope that this initiative will provide a breathing-space to allow a mutually acceptable balance to be achieved between forestry and nature conservation in this part of Scotland, while ensuring in the meantime that individual planting schemes which are approved are carefully considered and planned to make them compatible with conservation needs.

It is important in our view that a long-lasting solution should be found that will secure a proper place for all land use interests in Caithness and Sutherland. Forestry has an important role to play in the future prosperity of the area. As the present forests come into production, employment will increase in harvesting and transport. If a reasonable and balanced level of planting can be achieved over the next two decades, so that wood production can be sustained, the economic advantages of wood processing near the source of supply will lead to the setting up of local sawmills, board manufacturers and other industries dependent on wood supplies. The total employment dependent upon forestry could then be up to ten times its present level. 20

It needs to be remembered that the Commission has a significant area of older plantations in Caithness and Sutherland — we began planting there in 1920 and have had a continuous programme since 1950. These plantations have demonstrated that trees, once established, grow well in this part of Scotland. The mean yield of our forests in Caithness and Sutherland is equal to the average for the whole of Scotland and is up to three times the average in Scandinavia. The low average elevation compensates for a cooler and shorter growing season, and wind hazard is no greater than in other parts of the country where forestry is practised successfully. We readily acknowledge the great value of the area for nature conservation, a value which has only recently been fully realised and articulated by conservation interests, but it is equally important that the social and economic needs of the people who live and work there are given due recognition. 21

At the end of the year under report, the Nature Conservancy Council were preparing their advice to Government on the scientific case for further conservation safeguards in 22

Caithness and Sutherland. We looked forward to seeing this in the hope that it would provide a constructive basis for arriving at a well-founded balance between conservation, forestry and other land uses in this large, remote and sparsely-populated area.

- Broadleaves Policy* 23 In our report last year we provided a detailed commentary on the outcome of our review of broadleaves policy which culminated in an announcement on 24 July 1985 by the then Secretary of State for Scotland, the Rt Hon George Younger MP, of new policy initiatives by the Government “designed to maintain and enhance the value of Britain’s broadleaved woodlands for timber production, landscape, recreation and nature conservation”. The full text of Mr Younger’s statement was reproduced at Appendix V to that report.
- 24 One of the principal measures announced by the Government was the introduction of a new grant scheme — the Broadleaved Woodland Grant Scheme — which is designed to encourage the rehabilitation of existing broadleaved woodlands, by natural regeneration or planting, and the establishment of new ones. It offers significantly higher rates of grant for the planting or natural regeneration of broadleaves on their own. The Scheme was introduced on 1 October 1985 and we were able to report last year that it had had a most encouraging start and that it looked as though it would prove popular with landowners of all sorts. This optimism proved to be well-founded. In the 15 months to 31 March 1987 we received some 5,200 applications to join the Scheme covering over 37,000 hectares. Nearly 23,000 hectares had been approved for entry into the Scheme up to that date; much of this comprised existing broadleaved woodland to be brought under planned management, while some 3,300 hectares were earmarked for the establishment of new broadleaved woods. As a result of the stimulus provided by the new policy, the proportion of broadleaves planted in the private sector, including new planting and restocking, increased during the year to 13 per cent (3,187 hectares), from 10 per cent (2,341 hectares) in 1985-86; planting under the new Scheme accounted for more than half this total. Another encouraging feature is that the total area of new planting with broadleaves under all our schemes rose by almost 60 per cent to 1,348 hectares.
- 25 We are also applying the new broadleaves policy to our own new planting and restocking programmes, 1,024 hectares having been planted during the year compared with 362 hectares in 1985-86 and 197 hectares in 1984-85. This does not include small areas of naturally-regenerated broadleaves which have been encouraged as part of our current restocking programmes. In the uplands, broadleaved planting tends to follow watercourses, and often consists of enriching existing broadleaved woodlands which are particularly valuable for wildlife conservation and amenity. After enclosure and protection from browsing animals, such woods are an immediate seed source for natural regeneration. Regeneration of birch and other broadleaves is also being encouraged in upland conifer forests as they are replanted following clear felling. Tree shelters, pioneered by our Research Division, are being used to give early protection and to enhance the growth rates of young broadleaves. They are also widely used by the private sector for woodland and amenity planting and are a noticeable feature of the contemporary landscape.
- 26 Another feature of the new broadleaves policy was the decision to reduce the volume of timber — both broadleaved and conifer — that may be felled without a licence. This change, which was designed to give further protection against the depletion of existing woodlands, was made through an Order for which we received Parliamentary approval in December 1985. Its effect was to reduce the ‘licence-free quota’ from 30 cubic metres to 5 cubic metres per quarter, with a reduction in the volume of such timber that may be sold from 5.5 cubic metres to 2 cubic metres. It is possibly too early to draw firm conclusions, but the year has been marked by a dramatic increase (some 50 per cent) in the number of licences issued. This increase has only resulted in a marginal change in the volume licensed which suggests that the desired effect of bringing smaller fellings under licensing control is being achieved. Although more licences were issued, there has also been a rising trend in the incidence of suspected illegal fellings reported to us; last year, 86 such cases were investigated and 18 prosecutions were brought for contraventions of the licensing requirements. As a means of reinforcing the felling control legislation, the Forestry Act 1986 closed what was widely seen as a loop-hole by giving us the power to require the restocking of land with trees when a conviction has been obtained for an illegal felling.

- The Government's broadleaves policy statement indicated that consideration was being given to whether, within the existing rules, ancient semi-natural woodlands should be able to qualify for exemption from capital taxation in recognition of their heritage value. The Secretary of State for Scotland, the Rt. Hon Malcolm Rifkind QC MP, announced in Parliament on 19 June 1986 that it had been concluded that any such woodlands which were, or could be, properly included on the Nature Conservancy Council's Inventory of Ancient Woodland would be eligible for consideration for exemption of this kind. The full text of Mr Rifkind's announcement is reproduced at Appendix V. 27
- Our 1986 survey of conifers was extended to include older Norway spruce, as well as the 1985 plots of Norway and Sitka spruce and Scots pine which were all resurveyed. The results, as judged by crown density, showed a slightly poorer state of health than in 1985. Several factors, notably more critical observation of crown condition by surveyors, winter-cold damage, and fungal and insect attack, are believed to be largely responsible. Nevertheless, stress caused by other factors such as air pollution cannot be ruled out, but we are unable to judge their contribution. The survey will be extended in 1987 to cover a wider range of species and ages. 28 *Forest Health Surveys*
- Two other surveys are underway, one on the dieback of ash and other trees in hedgerows, the other on woodland beech and heathland pine. For the first, we have joined with the Department of the Environment to establish a research assistantship at the University of Aberdeen. The principal aim is to investigate the factors affecting the incidence and severity of ash dieback, but dieback in other hedgerow trees (mainly oak) will also be recorded. Preliminary work on assessment techniques was undertaken in the summer of 1986 and the main survey will take place in 1987 and 1988. 29
- The second survey has been commissioned jointly by the Forestry Commission and the Nature Conservancy Council, and is being undertaken by Imperial College, London. This is designed to assess the health of beech and Scots pine in southern Britain and to attempt to relate the results to prevailing pollution. About 100 beech woodland plots have been selected and the techniques for assessing health have been determined. Open-grown Scots pine on heathland sites in southern Britain will be included during the second year of this two-year study. 30
- In our last report, we described the new research project we had started at three sites with contrasting climates and types and intensities of pollution, where the question of low-level damage from pollutants, without visible symptoms but with reductions in growth, was being studied by subjecting trees in open-top chambers to ambient and filtered air. The first of these experiments, at Headley in Hampshire, was established in 1985-86. The second open-top chamber site at Glendevon in Perthshire is now fully operational and the third, at Chatsworth Park, Derbyshire, was due to be completed in April 1987. Work at Headley suggests that ozone fumigation reduced the biomass of fine roots of Scots pine transplants, but not of Sitka or Norway spruce. Filtering air reduced leaf senescence and retarded leaf fall in some poplar clones, but without any measurable effect on biomass over one summer; climate and pollution appear to interact in their effects on the poplar clones selected for investigation. 31 *Air Pollution Research*
- The possible effect of forests on the quality of water supplies, particularly on hard acidic rocks and soils derived from them, has been causing concern. There are also potential effects associated with accelerated water run-off following afforestation, with consequent increases in sediment levels and in erosion. These and other water-related issues were discussed at a collaborative Workshop organised by our Research Division and the Water Research Centre which was held at York in December 1986. This meeting examined the requirements of water users in respect of water from afforested catchments and proposed that guidelines should be prepared for the use of forest managers to reduce the risk of adverse effects from forestry operations. We have begun work on the preparation of these guidelines. We are also continuing to participate in a number of research projects designed to provide more information on the interaction of forests and hydrology. 32 *Upland Forestry and Water Quality*
- The Agriculture Act 1986 came into effect during the year. Among its provisions is one which allows Agriculture and Environment Ministers to designate Environmentally 33 *Agriculture Act 1986*

Sensitive Areas (ESAs). During the passage of the Bill, amendments were put down which would have made specific provision for the control of forestry in ESAs. These amendments were not accepted, but assurances were given by Ministers that the Commission would not approve schemes that were incompatible with the environmental features that such designations were intended to protect. We have subsequently reached agreement with the Nature Conservancy Council and the Countryside Commissions on the consultation arrangements for forestry proposals in these areas.

- Reports on Forestry* 34 A number of reports were published during the year on the place of forestry in the countryside, all of which served to give further stimulus to the continuing debate on forestry and the environment generally. The Nature Conservancy Council published *Nature Conservation and Afforestation in Britain*, to which a Government response was awaited at the end of the year under report. The Countryside Commission for Scotland issued *Forestry in Scotland* which stressed the need for full regard to be paid to all land use interests while recognising the importance of productive forestry. This theme was echoed by the report published by the UK Centre for Economic and Environmental Development entitled *Forestry: Britain's Growing Resource* which called for the further expansion of the British forestry industry to be encouraged in the national interest, subject to constraints arising from meeting the reasonable needs of other land users. The House of Lords' Select Committee on the European Communities also gave their views on forestry in this country in their report on *EEC Forestry Policy**. The Select Committee declared their support for the expansion of forestry, particularly in the United Kingdom, although they pointed out that this would need to be carefully managed to take account of the needs of timber production, wildlife protection and the provision of employment in rural areas.
- 35 Among other publications of note, the Countryside Commission issued reports on *Enjoying the countryside* and, in conjunction with the Sports Council, *Access to the countryside for recreation and sport*. We welcomed both these reports, many of whose conclusions and proposals are in accord with our continuing policy of encouraging the maximum possible access to and enjoyment of the nation's forests.
- 36 The Energy Technology Support Unit of the Department of Energy published *Energy forestry in Britain: environmental issues*, providing a useful contribution to the debate on alternative uses of agricultural land. Although the scope for energy forestry in Britain may be constrained at present by a limited demand for its products, it is clear that, provided landscape aspects are sensitively handled, the effects on the environment will be generally acceptable.

FORESTRY AND LAND USE

- New Policies for
Alternative Land Use* 37 In the light of increasing surpluses in many of the main agricultural commodities, a number of new policy initiatives were announced on 9 February 1987 by the then Minister of Agriculture, Fisheries and Food, the Rt Hon Michael Jopling MP, designed to encourage alternative uses of farm land. Two of the proposed measures are of particular relevance to forestry, namely the introduction of a scheme to encourage the development of farm woodlands and an expansion of the traditional forestry programme.
- 38 The Farm Woodland Scheme is intended to build on the existing forestry grant schemes, but with the provision of annual payments by the Agriculture Departments to bridge the gap between investment in planting and the likely first income. The details of the Scheme were the subject of a joint consultation document by the Agriculture Departments and the Commission issued in March 1987. The Scheme, which will also apply in Northern Ireland, is expected to be launched in time for the 1988-89 planting season. It is proposed that up to 36,000 hectares should be planted over the first three years, after which the Scheme will be reviewed to see how well it has achieved its objectives.

*Twenty-fourth Report for Session 1985-1986. *EEC Forestry Policy*. HL259-1, HMSO, £4.60 net.

In broad terms, the aims of the Scheme, as set out in the consultation document, will be: 39

- a to divert land from agricultural production and thereby assist in the reduction of agricultural surpluses;
- b to enhance the landscape, to create new wildlife habitats, to encourage recreational use, including sport, and to expand tourist interest;
- c to contribute to supporting farm income and rural employment;
- d to encourage greater interest in timber production from farms and, in the longer term, to contribute to the UK's timber requirements.

The Government also announced an expansion of the traditional forestry programme with a target of 33,000 hectares of new planting a year; this compares with the previous objective of 30,000 hectares and represents an effective annual increase of 10,000 hectares over recent new planting levels. Particular emphasis will continue to be placed on the contribution of the private sector and due regard paid to environmental considerations. It is intended that the planting of a higher proportion of trees on low ground of better quality than hitherto will be encouraged by the release of such land to forestry, and we shall be bearing in mind the need to give further encouragement to this move in our regular reviews of grant rates. We welcome these proposals as confirmation of the Government's support for forestry in Britain and for the important role that it can play in helping to provide an alternative use for land in surplus agricultural production. The Farm Woodland Scheme in particular will further foster the integration of forestry and agriculture as complementary land uses. 40

We published a consultation paper towards the end of March 1986, details of which were given in our 1985-86 report, inviting comments on the conclusions we had reached following a review of the composition and procedures of our Regional Advisory Committees. A great deal of interest was shown in the review, with responses being received from over 50 organisations and individuals. Not surprisingly, the views expressed differed widely. We took advice from the Committee chairmen on the practicality of a number of the suggestions made as well as undertaking further consultations with other Government Departments. These consultations were still proceeding at the end of the year under report. 41 *Regional Advisory Committee Review*

We mentioned in our last report that Sir John Stradling Thomas MP had introduced a Private Member's Bill which included a proposal to raise the maximum membership of the Committees from nine to twelve. The Parliamentary procedure under which the Bill was introduced made its progress dependent upon there being no objections raised at Second Reading in the House of Commons. In the event, the Bill was opposed at that stage and the clause relating to the Regional Advisory Committees had to be removed in order to allow the remaining provisions, which were designed to close a loop-hole in our felling licensing powers (see paragraph 114), to proceed. 42.

Since 1950, the Landscape Areas Special Development Order (LASDO) has enabled planning authorities (under the General Development Order provisions of the Town and Country Planning Acts) to modify landowners' proposals to construct agricultural and forestry buildings in areas broadly coinciding with the Lake District, Peak District and Snowdonia National Parks. On 1 November 1986 these arrangements were extended under the Town and Country Planning (Agricultural and Forestry Development in National Parks, etc) Special Development Order, 1986. This Order applies throughout all ten National Parks, as well as to those few parishes outside the three original Parks which have been affected all along. It covers agricultural and forestry buildings and roads and gives local planning authorities discretionary control over siting, design and external appearance by imposing an obligation on owners to give prior notice of their proposals. 43 *Forestry Buildings and Roads in National Parks*

This Forum, which was established by the Countryside Commission in 1983 to seek a consensus on future policies towards common land among a wide range of land use and recreation bodies, submitted its report in August 1986. The Countryside Commission published it and referred it to the Secretary of State for the Environment with a request for 44 *Common Land Forum*

legislation. Shortly before the end of the year under report, the Department of the Environment issued a consultation paper as a forerunner to the introduction of legislation. The three main areas identified by the Forum as requiring attention were:

- a adjustments to the existing registration legislation to provide for the resolution of anomalies;
- b provision of a framework for the management of commons, based on management committees representing all interests and on standard management guidelines;
- c after an interval of five years or so to allow for the introduction of proper management arrangements, provision for rights of public access (subject to limited restrictions to take account of management requirements, safety, etc) on those commons where such rights do not already exist.

There was broad agreement among most recreation, amenity and landowning interests over the need for measures such as those advocated by the Forum, although forestry interests have emphasised that any new framework should allow a realistic degree of flexibility in the planting and management of woodlands on commons.

AWARDS TO THE COMMISSION

- 45 We are pleased to record the following awards won by the Commission during the year:
- a for forest sculpture at Grizedale, we won first prize in the Arts in the Environment class in a competition organised by the Royal Society of Arts: the same exhibit was awarded a special prize by the Arts in Offices organisation;
 - b the Association for the Preservation of Rural Scotland awarded a prize for our restoration of Puck's Glen Forest Walk in Cowal Forest District;
 - c Ardgartan Forest was the first winner of the John N Kennedy Memorial Trophy in a new award scheme introduced by the Royal Highland and Agricultural Society of Scotland to reflect the increasing importance of harmonising forestry with the landscape and the environment;
 - d for the second year in succession, our stand at the Chelsea Flower Show was awarded a Royal Horticultural Society Lindley Medal;
 - e our stand at the Silver Jubilee Boat, Caravan and Leisure Exhibition, at the National Exhibition Centre, Birmingham, received the award for the best tourism stand;
 - f two of our forest workers — Mr Duncan Gillies of Argyll Forest District and Mr Hugh Duffy of Mull Forest District — took first and second prizes in the Royal Scottish Forestry Society's National Tree Felling Contest.

INDUSTRY YEAR

- 46 As our contribution to Industry Year 1986, we published a booklet under the title *British Forestry* which places particular emphasis on forestry as an industry and its contribution to the economy and the environment. *British Forestry* was published in association with Timber Growers United Kingdom, and with generous support from BP Oil, the Co-operative Wholesale Society Ltd, Massey-Ferguson Ltd, Scottish Agricultural Industries plc and TWIL Group Marketing Ltd.

FORESTRY INDUSTRY COMMITTEE OF GREAT BRITAIN

- 47 In January 1987, the Forestry Industry Committee of Great Britain was formed by private sector interests to represent all sectors of the forestry industry. The Committee, which encompasses interests ranging from nurserymen to wood processors, has as its declared

purpose to ensure that the entirety of the national forestry resource is fully understood and properly presented to Government, the media and the public. We welcome the formation of this Committee to speak on behalf of the private sector of the industry as a whole.

FORESTRY IN THE EUROPEAN COMMUNITY

Under the normal rotational system, the United Kingdom assumed the Presidency of the Community's Council of Ministers for the six-month period from 1 July to 31 December 1986. It is customary for an informal meeting of the Council of Agriculture Ministers to be held in the country holding the Presidency. In his capacity as President, the Rt Hon Michael Jopling MP was host to the Council's tour in the Lake District which incorporated a visit on 29 September 1986 to the Commission's Grizedale Forest, its Visitor Centre and the Theatre in the Forest. A sessile oak was planted by Mr Jopling to mark the occasion. 48

In November, concluding more than three years of debate, the Council of Agriculture Ministers adopted two Regulations on the protection of the Community's forests against atmospheric pollution and fire. They provide for Community financial contributions amounting to 30 million ECU (approx £20 million) over a five-year period for schemes and projects to be developed in Member States for fire prevention and 'acid rain' monitoring, including co-operative scientific studies. 49

MANAGEMENT REORGANISATION

The reorganisation of our Headquarters office and the reduction in the number of Conservancies from 11 to 7 which took effect from 1 April 1985 has already achieved a great deal by way of increased flexibility, improved communications and a streamlining of procedures. Since then there have been some further amalgamations of Forest Districts and adjustments to boundaries to make for more effective management. 50

Consultations were completed with the Trade Unions on the merger of the Forest Officer and Forester classes into a single Forest Officer class, which was introduced on 1 February 1987. This new arrangement is designed both to improve career structure and opportunities and to provide the Commission with greater management flexibility. Recruitment to the new class will continue at two levels — Forest Officer Grade II for honours graduates and Forest Officer Grade IV for those holding forestry diplomas. Further consultations with the Unions were taking place at the end of the year concerning detailed arrangements for the management of the new class and its pay and conditions of service. 51

INFORMATION TECHNOLOGY

We have maintained satisfactory progress in the development and introduction of new computer systems throughout the Commission. British Telecom installed a DEC VAX 8600 computer at our Edinburgh Headquarters in April 1986, and in the following three months set up a nationwide telecommunications network; this links our Headquarters' computers and terminals and the microcomputers in our Conservancy and Forest District offices, engineering workshops and research establishments. It employs the latest technology, and the logistics involved in its establishment in some of the remoter parts of Britain have provided many challenges. 52

The first system to run on the new distributed network was introduced in July 1986 and caters for contract and credit control, invoicing and the collation of information for sales of timber. A further two systems were implemented from September 1986, one providing information for our vehicle fleet management and the other a specialised package for use in forest investment appraisals. A fourth system for workshop stock control was also introduced on a trial basis towards the end of the year. The microcomputers in the Forest Districts, as well as being used to run these new systems, are also being employed to deal with a variety of local tasks. In addition to those noted in our last report, these now include a flexible aid for monitoring project costs and a system which provides access to a local growing-stock database. 53

- 54 While a good deal of effort had to be devoted to introducing these new systems, a major part of our computing staff resources was deployed throughout the year on developing a distributed system to replace our centralised financial accounting and management information systems. Work on this was affected by a number of delays, perhaps the most crucial being the strike by British Telecom engineers which not only interfered with the training of staff in outlying locations but also with the necessary upgrading of our communications network to carry the increased traffic. Despite this setback, we had made up sufficient lost ground by the end of the year to enable the new system to be introduced on time in April 1987.

EMPLOYMENT SURVEY

- 55 In collaboration with Timber Growers United Kingdom and with the assistance of some individual companies and of organisations representing various sectors of the industry, we carried out a comprehensive survey during the year of employment generated by British forestry. Figures were produced for man-years of employment; these included contractors who are being employed on an increasing scale, both by the Commission and the private sector, for certain tasks such as ploughing and draining. The results, which we subsequently revised to take account of some more recent information, are summarised in the table below:

	<i>England</i>	<i>Wales</i>	<i>Scotland</i>	<i>GB</i>
Forestry Commission	2,880	1,680	3,510	8,070
Private Growers	9,600	1,750	5,100	16,450
Timber Harvesting Companies	4,050	1,450	250	5,750
Primary Processing Industries(1)	5,710	1,090	2,340	9,140
	<u>22,240</u>	<u>5,970</u>	<u>11,200</u>	<u>39,410</u>

(1) Processing British grown timber only.

This is the first detailed and reliable survey undertaken in this field, and it has indicated that previous estimates of the number of jobs in this country dependent on forestry have been significantly understated.

COMMISSION APPOINTMENTS AND STAFFING

Commissioners

- 56 Mr George Holmes retired as Director General on 9 November 1986 after 38 years' distinguished service with the Commission. His 10 years as Director General saw some dramatic improvements, under his guidance, in the fortunes of the forestry industry in this country. He is widely respected, both at home and abroad, for his clear vision of the social and economic benefits of forestry and its importance in the environment, and his untiring work for the Commission and for forestry at large will be long remembered with gratitude and affection.
- 57 Mr Holmes was succeeded as Director General by Mr Gwyn Francis, who was in turn succeeded as Commissioner Operations by Mr David Foot on promotion from Director Harvesting and Marketing.
- 58 Lord Gibson-Watt retired as a part-time Commissioner on 17 October 1986 after serving three terms of office since October 1976. His wise counsel and wide knowledge will be greatly missed. Mr Charles Woosnam was appointed as his successor on 20 October 1986.

Senior Staff

- 59 Mr Stephen Quigley was appointed Director Harvesting and Marketing on 10 November 1986. He was formerly Deputy to the Director.

On 31 March 1987, the Commission employed 2,170 non-industrial staff compared with 2,128 the previous year. The increase was due to the expansion of Forestry Authority work and larger programmes of conservation and landscaping. The number of industrial staff fell from 3,839 a year earlier to 3,628. The reduction was achieved by improvements in efficiency in forest operations and because more work was undertaken by contractors. The employment survey, described in paragraph 55, showed that the Forestry Commission provides employment for 8,070 people: of these, 5,798 are directly employed and the balance is made up of contractors working in Commission forests.

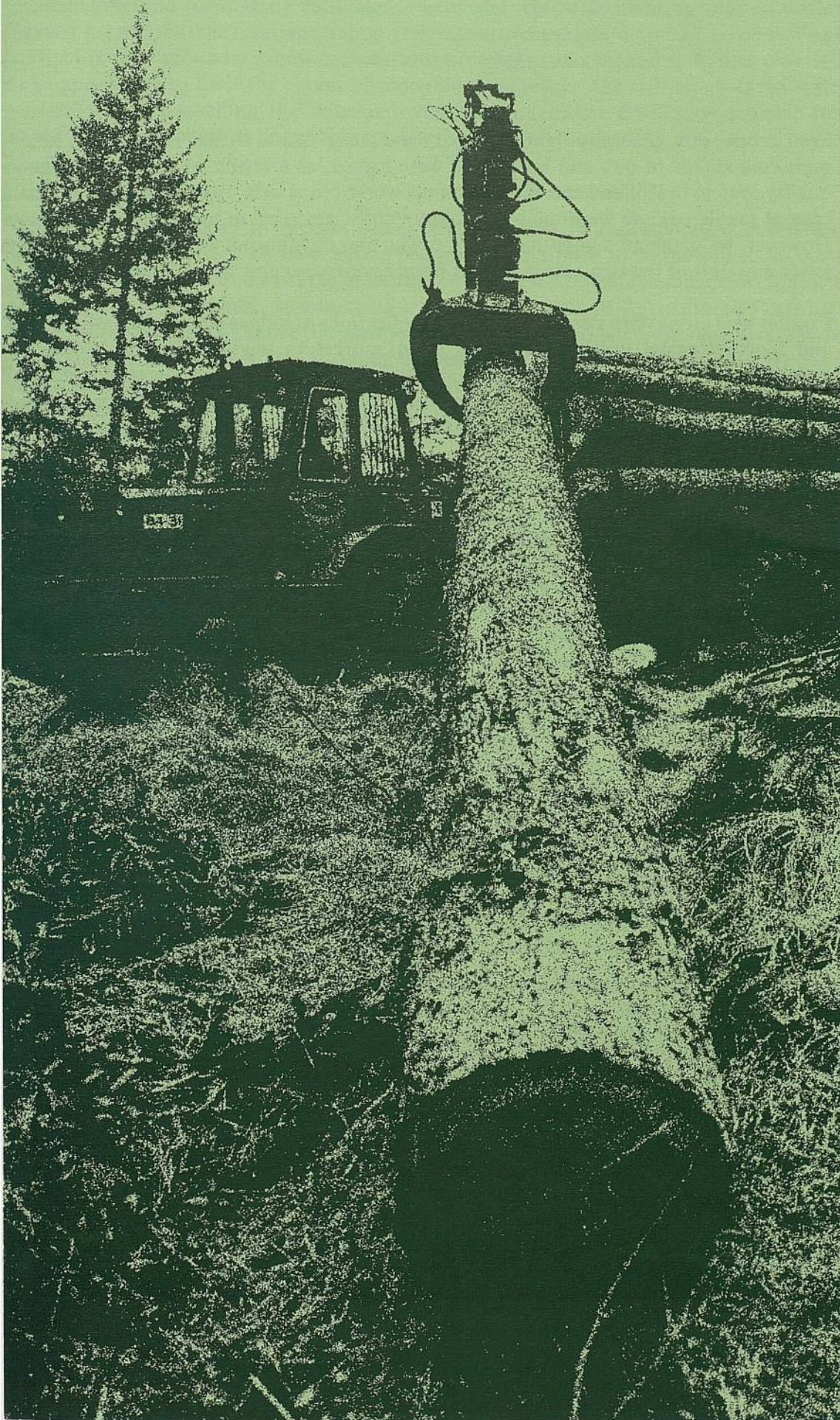
60 *Employment*

Arrangements exist to keep all our employees informed on matters of concern to them, with information being disseminated widely at both local and departmental levels. The usual system of Government Whitley Councils at national and regional levels is supplemented by occasional meetings with Trade Unions as the need arises, and by briefing meetings to ensure that staff are given the opportunity to comment and to be involved in the decision-making process. A broadly similar arrangement for industrial employees is provided through the Commission's Industrial and Trade Council at national level and a network of Joint Consultative Committees at Conservancy and/or Forest District levels.

61 *Employee Participation*

Although the Disabled Persons (Employment) Act 1944 is not binding on the Crown, the Commission, along with other Government Departments, has undertaken to accept the same responsibility as other employers. The basic policy followed is that disablement of itself is no bar to recruitment to, or advancement within, the Commission. The test applied is the ability to do the job, and we are concerned to ensure that every opportunity is taken to employ disabled people. The physically-demanding nature of much of forestry work restricts the scope for employment of disabled persons on forest operations, but within this limitation our policy is to provide for equal opportunities for the disabled.

62 *Disabled Persons*



FORESTRY ENTERPRISE

SILVICULTURAL OPERATIONS

- Seed*
- 63 Seed crops were generally light this year, and there was a virtual crop failure among registered stands of oak and beech. We were forced, as a result, to import from good-quality sources in Holland and West Germany where crops were also below average. In the case of sessile oak we were unable to obtain sufficient seed to meet our requirements. However, we gathered a good harvest of rowan and hawthorn and some gean, as well as lesser amounts of the two native birches *Betula pubescens* and *Betula pendula*.
- 64 Conifer seed crops were also light. We made collections of lodgepole pine, mainly Alaskan and North Coastal provenances from good sources throughout Britain. Scots pine collections began in December and were still being made at the end of March. Much of this seed is from East Anglia and is destined for export to North American Christmas tree growers who appear now to display a marked preference for seed of British origin.
- 65 Demand from the domestic nursery trade for seed of all species has been very strong, and increases in volumes of sales of up to 50 per cent have been recorded over the previous year's figures. This has led to significant reductions in our stocks of seed which need to be built up again. A further stimulus to demand will have been given by the Government's announcement in February 1987 of increased targets for the afforestation programme and the introduction of the Farm Woodland Scheme in 1988. Consultations are taking place with the nursery trade concerning the collection and supply of seeds to meet the expected increase in demand for plants for these new programmes.
- Nurseries*
- 66 A cold, wet spring and a cool growing season hindered sowing and lining-out operations in our nurseries and resulted in smaller-sized planting stock at the end of the season. Nevertheless, our nine nurseries produced a total of 43 million plants for forest use, which was an increase of some 22 per cent over the previous year's total.
- 67 Further results from our trials of producing stock by means of precisely spaced sowing and undercutting, as opposed to conventional broadcast sowing and lining-out, have confirmed the superiority and better field performance of undercut plants. It is likely that an increasing proportion of our stock will be produced by precision sowing and undercutting in the future, and plans are already in hand to extend the trials to Newton nursery in Moray.
- 68 In our last report we mentioned the results of a review of nursery capacity in England and Wales. A similar study of our nurseries in Scotland was completed in 1986 with the aim of identifying the most cost-effective options for ensuring the future supply of planting stock. The conclusion was reached that the most economic plant production would be achieved by developing one or more new nurseries by the mid 1990s on soils well suited to applying the best contemporary techniques. This would involve an investment programme extending over the next 10 years.
- Planting*
- 69 Severe weather in the early months of 1986 delayed our upland planting programme, so that a substantial area of the planned late-winter planting had to be carried over into 1986-87. A shorter, early cold spell in 1987 also led to some delays in planting, but generally in the upland Conservancies planting before 31 March 1987 was not seriously affected. The area of bare land planted was 5,342 hectares. This was greater than the area of new planting in 1985-86 because of the carry-over of some of that year's programme due to the weather. However, if the present limited scale of land acquisition persists, there will be a continuing decline in the size of our new planting programme. Almost all of the new planting is now taking place in the Scottish Conservancies with only minor programmes in England and Wales. We restocked 8,038 hectares of felled plantations during the year. This was 741 hectares more than in 1985-86, reflecting the general trend of increasing clear felling as our forests mature.

Work study research continues to have a significant influence on the efficiency of silvicultural operations and particularly on cultivation techniques. Ploughing has been the principal method for making cultivated, raised and weed-free planting sites on wetter, heavier ground, but the resultant ribbon patterns restrict the lateral spread of roots. Trials with a Finnish "moulder" show considerable promise as an alternative. In new planting, the opportunity to limit the extent of ploughing will reduce the risk of silt-laden water run-off; and in restocking, the "rake-and-release" action involved will provide brush-free sites for full restocking at acceptable spacings.

FOREST PROTECTION

The use of insecticides to protect young trees planted in recently-felled coniferous woodland against attack by bark-eating beetles has continued to be the subject of close attention. We have revised working practices for the application of insecticides to conform with new safety standards. In conjunction with the Ministry of Agriculture's Pesticides Registration and Surveillance Department, we have investigated the effectiveness of protective clothing for workers handling plants dipped in Lindane (gamma-HCH). As a result, the Department have issued a further provisional approval for the use of Lindane and Permethrin (a synthetic pyrethroid) with revised requirements for personal protective clothing which will ease working conditions for operators while maintaining their safety.

71 *Insect Control*

To minimise the handling of trees treated with insecticide, our Work Study Branch has developed a booth through which plants are fed by conveyor and subjected to a very low volume, electrostatic, targeted spray. The risks of contamination for the operator are very greatly reduced as the application of the insecticide is remotely controlled. Because very small amounts are used, trees are dry enough for immediate packing. Only about 150 millimetres of stem, from just below the root collar, are treated. A pilot installation was brought into use at Newton nursery during the year.

72

Control operations against *Panolis flammea* (the pine beauty moth) were again necessary in 1986. The treatment programme, on 2,713 hectares, involved the application of three types of active ingredient, namely:

73

- a Fenitrothion, the standard method developed since 1978 (1,456 hectares);
- b Diflubenzuron (Dimilin), an insect growth regulator that interferes with the normal growth patterns of target insects (632 hectares);
- c a baculovirus preparation produced by the Institute of Virology at Oxford (625 hectares).

Results from all three methods were satisfactory and it is envisaged that more proving trials of Diflubenzuron and the virus will be carried out in 1987. Work on the biology and population dynamics of *Panolis flammea* continues and promising areas of research into the links between lodgepole pine provenance and insect attack are being expanded.

The Control of Pesticides Regulations 1986 became law on 6 October 1986. Deriving from the Food and Environment Protection Act 1985, the Regulations will impose a series of obligations in place of the voluntary provisions under the former Pesticides Safety Precautions Scheme and the Agricultural Chemicals Approvals Scheme. The provisions of the Regulations are being introduced in stages. Since 6 October 1986, only approved pesticides have been permitted and users have been obliged to take all reasonable precautions to protect the health of human beings, creatures and plants, and to safeguard the environment. From 1 January 1988, the users of pesticides will have to comply with all the statutory conditions of approval relating to use as stated on the product label or in the published approval for the pesticide; and from 1 January 1989, users will require certificates of competence unless they are working under the direct and personal supervision of a certificate holder. Apart from the need to test and certify forest workers employed on this work, the existing conditions applying to the use of pesticides in our forests are affected only marginally by the Regulations.

74 *Pesticides Regulations*

Fire losses were relatively modest because of wet weather in the late spring of 1986 and during the latter part of the following winter. A total of 302 fires resulted in the loss of

75 *Fires*

122 hectares of woodland. Approximately two-thirds of this area was destroyed in only four fires — three in Wales and one in north Scotland.

- Deer Management* 76 The management of deer continues to play a vital role in the protection of young plantations. Sales of venison are now an important market for the forest industry, and we obtain a significant revenue from our deer management operations. The bulk of our venison production is exported to the Continent, where the market was badly depressed following the disaster at Chernobyl. Although this had a marked effect on venison exports from Britain, game dealers in this country were able to find alternative markets and our deer management programmes were largely unaffected.

FOREST DESIGN

- 77 We have over many years reported with satisfaction on the steadily-increasing and varied programme of landscape design applied to our forests. Detailed landscape design techniques have been developed to blend both small woodlands and large forests into the countryside; in addition, a basic framework has been provided to enable the needs of recreation and nature conservation to be harmonised with efficient wood production. Forest design seminars were held during the year for our own staff, and we also ran one, under the aegis of the Forestry Training Council, for forest managers in the private sector and for private landscaping firms.

FOREST RECREATION

- 78 The appointment during the year of a Recreation Officer has enabled us to start a major review of our recreation policies to ensure that they adequately meet public needs. To assist in this work, we have joined a consortium of other public agencies to update our knowledge about day visitors to the countryside and forests. Two outside companies are being employed in connection with this exercise, one in Scotland and one in England and Wales.
- 79 We attach considerable importance to the effective development of techniques for explaining the forest environment to the public and have carried out major interpretive planning exercises at Cannock Forest in Staffordshire and at Bedgebury Forest in Kent, employing consultants. The results of this work will be used to formulate plans for modern interpretive facilities at these two forests and at the National Pinetum at Bedgebury. We have also appointed an Education Officer at our Visitor Centre at Westonbirt Arboretum to manage interpretation projects provided for school visits to the arboretum, where we receive about 18,000 school children each year. The development of computer software to interpret forestry for children in an interactive manner at Whinlatter Visitor Centre in Cumbria has been very successful, and we plan to extend this facility to other centres.
- 80 We have accepted an invitation to exhibit at the 1988 Glasgow Garden Festival. A major open-air exhibition, based on the theme of the 'Magical Forest' and aimed at the family group and younger children, is being planned. The exhibits will be designed to maximise their subsequent use at other Commission recreation facilities after the Festival.

ESTATE MANAGEMENT

- Land Acquisition* 81 During the year, 2,452 hectares of plantable land were acquired, including 57 hectares of land under trees. The distribution of acquisitions was as follows:

	<i>Total plantable area acquired (hectares)</i>
England	58
Wales	66
Scotland	2,328

The average price of plantable land without trees was £563 per hectare, compared with last year's average of £523 per hectare.

There was evidence during the year of more land with planting clearance coming onto the market. Our acquisition funds are limited, however, and in a competitive market we concentrated on properties which were rational extensions of our existing woodlands or which assisted in maintaining employment in socially-fragile areas.	82
Our programme of land rationalisation continued during the year with the sale of some 180 blocks of forest land totalling 6,186 hectares being completed. The majority of areas sold were under 25 hectares. Sales of a further 5,000 hectares of forest land were in the process of legal completion at the end of March. In addition to forest properties, we sold some 200 houses and 4,770 hectares of other land which was surplus to our requirements. The aggregate receipts for the year were £14.7 million. The total cash receipts since the present disposals programme started in 1981 amount to £97.8 million, of which £94.8 million had been surrendered to the Exchequer (Consolidated Fund) by 31 March 1987.	83 <i>Sale of Plantations and Other Properties</i>
Details of the net area of land disposed of during the year are given at Table 7 of Appendix VIII, while details of forest land sold during the year and average prices received are shown at Table 8.	84
We spent £2.0 million on the construction and improvement of buildings in the course of the year. One of the most important projects was the move of the West England Conservancy office to modern, leased premises in Keynsham after being located for many years on the outskirts of Bristol. This move was completed successfully and the new premises are already contributing to improved staff morale and efficiency. Progress has continued to be made in the provision of office accommodation suitable for the new Forest Districts, with offices being constructed at Exeter and Aberfoyle and major improvements carried out to existing offices in the Buchan, Cornwall and North Devon, Somerset and South Devon, and Weald Forest Districts. Other major developments started were new Forest District offices at Cairnbaan and Rheola and office extensions at Thetford and West Downs. The installation of a new sewage plant was completed at Beddgelert campsite, where work on a new reception area is under way.	85 <i>Management of Property</i>
Income from minerals for the year exceeded £500,000, interest being shown in a wide range of materials. Encouragement has been given to private coal operators and has led to increased working in both small-mining and open-cast operations, notably in the south of Wales and in the Central Lowlands of Scotland. There is a continuing demand for construction materials, and deposits on our land are exploited as opportunities allow within the conditions set out by planning consents.	86
Our rental income for the year, including agricultural, sporting and other rents, was £2.7 million. The Commission's property holding is detailed in Table 13 of Appendix VIII.	87
Following the success of energy surveys at some of our larger buildings such as the Headquarters office in Edinburgh and the research establishments at Alice Holt in Surrey and the Bush near Edinburgh, our energy conservation programme is being extended to include Conservancy and Forest District offices. A continuous system of monitoring the energy costs for all our offices, other forest buildings and recreational sites is being implemented.	88
Our commercial recreation facilities continued to prove popular, in an increasingly competitive market. There was an encouraging rise in the number of mini-break holidays taken in our cabins and an improvement in the occupancy levels of our campsites. The three new holiday houses referred to in last year's report were well received and had a successful first season. The refurbishment of the Strathyre forest cabins was completed, as was the first phase of improvements to the toilets and showers in the forest cabins at Keldy. Eight of our 13 Class A campsites now have electrical hookups and the Class B caravan touring site at Tackeroo in Cannock Forest was opened officially on 1 April 1987. As part of the drive towards improved efficiency and a better service to customers, a computerised system of holiday booking was under trial during the year and will be fully operational for the 1987-88 season.	89 <i>Commercial Recreation</i>

*Peace Convoy in
the New Forest*

90 In June 1986, a straggling caravan of some 90 decrepit vehicles — the self-styled ‘Peace Convoy’ — proceeded to camp on Commission land in the New Forest with total disregard for the Commission’s Byelaws. A High Court warrant for possession was obtained and enforced with the help of the Hampshire police. The vehicles were towed away and impounded, the trespassers were moved on, and in a remarkably short time, through the diligent work of our local staff, all traces of their destructive occupation had been removed. Due to this incident, and to similar incursions by the convoy on private land, the Government issued a Guidance Note on the civil law for farmers and landowners in England and Wales faced with mass trespass of this kind.

HARVESTING AND MARKETING

Market Demand

91 Sales have been buoyant for virtually all roundwood products. The demand for sawlogs of all sizes continued particularly strongly, with a notable surge in the market for small logs used for making pallet boards as a consequence of reduced imports and higher prices of palletwood from Portugal. Round mining timber demand declined as British Coal sought to absorb stocks from mines closed over recent years. As developments in wood processing, described in last year’s report, reached full capacity, the market for small roundwood for pulp and particleboard continued to be extremely strong.

Wood Prices

92 With the strength of demand and the higher level of prices obtainable for sawn softwood, sawlog prices increased on average by 4.5 per cent with a larger increase of around 7 per cent for small roundwood.

*Forestry Commission
Operations*

93 Set out below are the results of our 1986-87 harvesting and marketing operations together with results from the previous five years. These figures have been adjusted to take account of work in progress so that comparisons can be made with the Accounts of the Forestry Enterprise (pages 52 to 55).

	<i>Unit</i>	<i>1981-82</i>	<i>1982-83</i>	<i>1983-84</i>	<i>1984-85</i>	<i>1985-86</i>	<i>1986-87</i>
	Million cubic metres						
<i>Total Removals</i>		2.73	2.80	2.93	2.86	3.11	3.32
By Sale Standing	”	0.91	0.96	0.98	0.93	1.09	1.23
By Forestry Commission harvesting (adjusted for change in work in progress)	”	1.82	1.84	1.95	1.93	2.02	2.09
<i>Income</i>	£ million	36.32	38.43	44.20	46.96	56.70	64.79
Forest costs (expenditure, excluding administrative expenses)	”	24.60	23.98	22.84	23.82	27.47	26.74
Surplus	”	11.72	14.45	21.36	23.14	29.23	38.05
<i>Income per cubic metre</i>	£	13.30	13.73	15.08	16.42	18.23	19.52
Forest costs per cubic metre	”	9.01	8.56	7.79	8.33	8.83	8.06
Surplus per cubic metre	”	4.29	5.17	7.29	8.09	9.40	11.46

In the following paragraphs the features of our operations in each of the main sectors are set out in more detail.

Conifer Sawlog Sales

94 The total volume of sawlogs sold from our own harvesting operations was 1,080,000 cubic metres (measured overbark), an increase of 1.4 per cent over the previous year. The average

price improved by 4.5 per cent over the previous year. At the same time the Log Price Index, which is an index of forward prices, ended the year at 218.7 compared with 196.4 at 31 March 1986.

As a consequence of the increased capacity of the domestic industries using small roundwood, direct sales increased by 6 per cent. While we have no direct contracts with overseas buyers, small roundwood offered in tender sales led to the export of some 63,000 tonnes.

Pit closures continue to reduce the demand for round mining timber, which is now at 70 per cent of the level before the 1984 industrial dispute. Our deliveries were 17 per cent below those of the previous year.

There was keen competition for standing timber of all categories. Timber continues to be moved by road, rail and sea, with rail transport in particular allowing many of the larger consumers to extend their catchment areas. The volume of timber sold standing from Commission forests rose during the year by 13 per cent to 1,231,000 cubic metres: this represented 37 per cent of the total volume of wood harvested. At the end of the year the Standing Sales Index stood at 521.6 compared with 440.5 at 31 March 1986, a rise of 18 per cent.

The volume felled by direct working was 2,098,000 cubic metres, of which 552,000 cubic metres were harvested by thinning and 1,546,000 cubic metres by clear felling. We have continued to consolidate the gains made in productivity in recent years, and during the year under report working costs were reduced in real terms by 5 per cent. The recommendations contained in the reviews of the operational management of the Commission's medium forwarders and cable cranes, reported upon last year, have been implemented and resulted in increases in productivity per machine of 2 per cent for forwarders and over 25 per cent for cable cranes compared with 1985-86.

Over the last five years, the introduction of improved harvesting systems has led to a change in the composition of our extraction fleet from a holding dominated by skidders and cable cranes to the present slimmed-down fleet dominated by forwarders. The number of machines used in harvesting has fallen from 320 in 1982 to 155 in 1987, with an increase of 75 per cent in the volume handled per machine. The Commission's third Bruunet processor was introduced in Mid Scotland Conservancy during the year, and a further machine will be operating in South Scotland Conservancy in 1987.

The introduction of a clear-felling harvester in Mid Scotland Conservancy was completed towards the end of the year following a planned two-year installation period. The machine has exceeded the operational standards set for the trial and has produced cost savings compared with many other systems, while offering better and safer working conditions for our employees. Intensive planning — with an emphasis on operator selection, on the training of supervisors, operators and mechanics, and on mechanical engineering support — has been rewarded by impressive outputs. Our experience from this trial will benefit the introduction of advanced mechanised harvesting systems in the future.

We constructed 107 kilometres of new road and upgraded 159 km of existing roads during the year. Because of changes in harvesting systems, the density of roading continues to reduce and nearly 1,000 km of existing roads were removed from the permanent road network during the year. Design engineers have been heavily involved in checking the Commission's bridges as a result of new rules from the Department of Transport on bridge assessment. In addition, a simple heavy-duty bridge has been designed for use on roads required for access before and during planting. Our low-cost road construction has created interest among British engineers who are involved in this type of work overseas.

The Reservoirs Act 1975 came into full operation on 1 April 1986. The purpose of the Act is to further public safety by increasing the statutory responsibilities of owners of large reservoirs. Among the many reservoirs on Commission land, eleven are affected by the

95 *Conifer Small Roundwood Sales*

96 *Pitwood*

97 *Sales of Standing Timber*

98 *Harvesting*

99

100

ENGINEERING

101 *Civil Engineering*

102

regulations. Each of these reservoirs has to be inspected by an independent engineer, who is required to report on its condition and safety to the Commission and to the local authority. For a number of years we have ensured that all of our dams and water-retaining structures are examined to ensure the integrity of the structure.

103 Our engineering staff have continued to maintain close links with local authorities on the use of public roads by forestry traffic. Successful discussions with many local authorities and with central government have ensured freedom of access in most parts of the country, although some problem areas remain. Advice has been given to private owners, timber hauliers and timber merchants, and our timber sales contracts in Scotland now specify the use of preferred routes of access to the sale area, where this is appropriate.

Mechanical Engineering

104 Our efforts over recent years aimed at standardising, training and improving management in the mechanical engineering sector have resulted in greater machine availability and lower fleet costs. The introduction of apprentices at a number of workshops will go some way towards providing mechanics for the future, skilled in the increasingly specialised field of forestry machinery.

105 A new fleet management system was installed during the year. All repair and maintenance work carried out on the Commission's fleet will be coded to describe the part of the machine being repaired, the site where the repair was carried out and the reasons for the repairs. This information, in conjunction with data in the system, will allow repetitive faults, operational difficulties and manufacturing errors to be detected across the fleet. Workshop staff will have the whole history of machinery available on display when deciding on the economics of maintenance and repair. Overall, this should improve our purchasing and repair decisions and reduce the time our mechanics spend on repairs. The Commission's fleet management has attracted attention from various other Government Departments and our engineers have been asked to give advice in a number of cases.

Radio Engineering

106 Following the release of the old 405 television channel, the Government has completely reorganised radio frequencies in the United Kingdom. The Commission has a unique requirement for radio communication, involving a country-wide network, much of it operating over difficult upland terrain. An exclusive channel has been allocated for our use and our Radio Branch has been heavily involved in converting equipment. The use of systems to connect our radios to the public telephone network and to allow communication outside working hours and over long distances has proved a great success and has saved on the installation of expensive repeater stations. The Branch maintains base stations and mobile radios in order to provide reliable communication between operators in the field and Forest District offices.

Energy Efficiency Year

107 1986 was designated as Energy Efficiency Year. As we have indicated before, the Commission's energy conservation programme has been an outstanding success and has been applied on a wider basis as we have learned from experience. We have established energy management teams, and with advice from specialist consultants savings of £14,000 were achieved in the first year of operation of the Headquarters' energy conservation programme. The use of diesel-engined vehicles and specialist training on energy-efficient driving have reduced our fuel bills by over £100,000 a year. Our efforts have created much media interest, resulting in the Chief Engineer being invited by the Secretary of State for Energy to address an audience of senior Scottish industrialists on our experience.

FOREST WORKERS' PAY

108 The pay settlement for forest worker grades agreed during the year increased the weekly rate for unskilled forest workers to £86.39 and for forest craftsmen to £98.24 from 28 July 1986. The settlement included a provision that in those weeks in which piecework earnings were not available guaranteed rates would be paid, the amounts from 28 July 1986 being £94.05 for unskilled forest workers and £107.00 for forest craftsmen. The average weekly earnings of forest workers in 1986-87, based on a sample of one full week's work by all grades in each quarter, were £135.70.

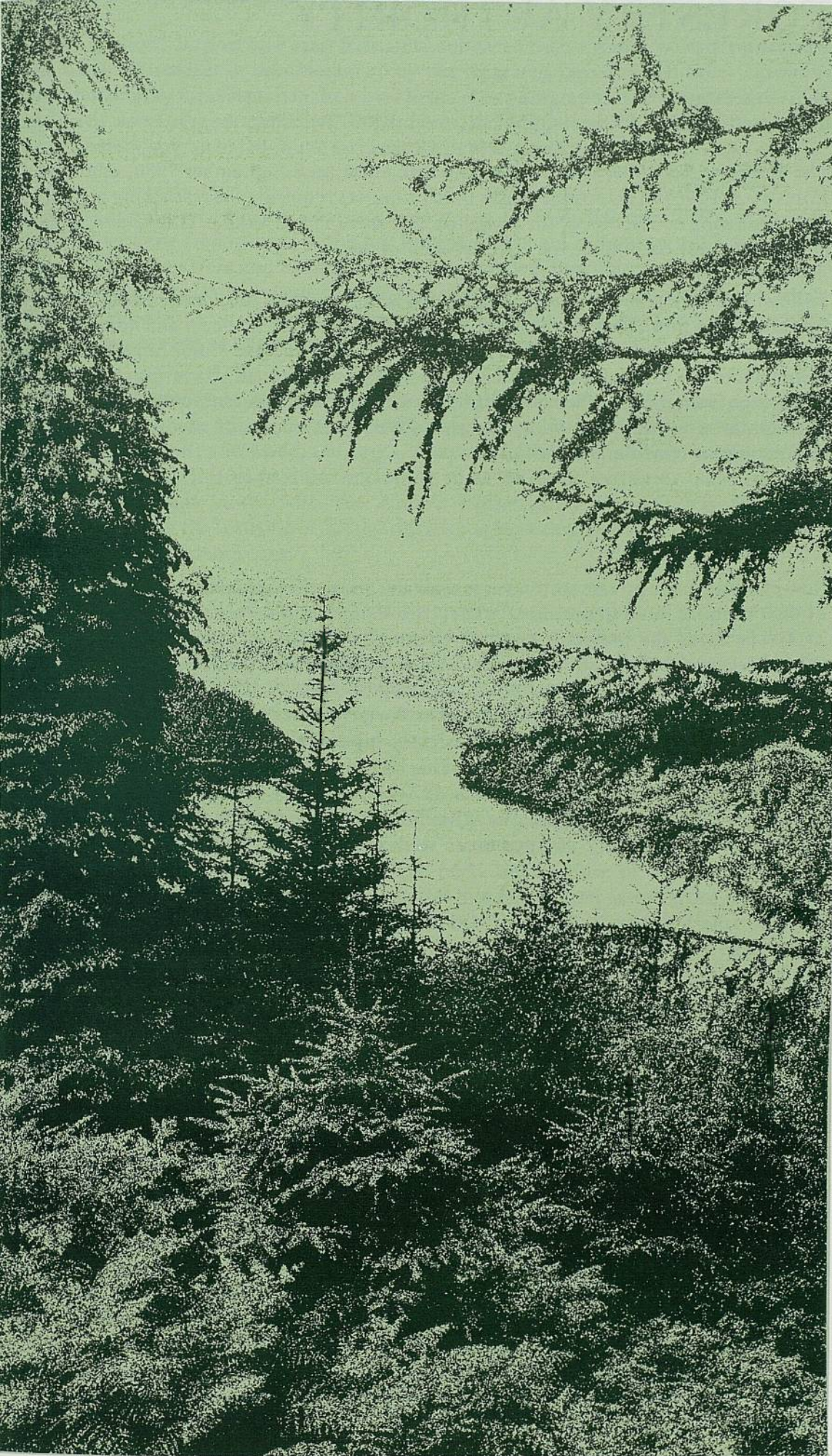
After a noticeable reduction in 1985 in the number of reportable accidents (ie those causing incapacity for more than three days), the position marginally worsened in 1986 — 5.9 per 100 industrial employees compared with 5.8 the previous year. We are determined to ensure that the earlier downward trend is maintained in future. 109

In response to a recommendation from the Health and Safety Executive (HSE), the form of accident report was revised to encourage more objective reporting and to enable the information to be stored on computer. Another HSE recommendation has been implemented with the appointment of two Regional Safety Officers whose principal task will be to carry out safety audits at Forest Districts. 110

During the year two members of HSE's Accident Prevention Advisory Unit visited Forest Districts in West England and North England Conservancies to review the progress being made in implementing the recommendations arising from the Unit's inspection of the Commission in 1983-84. At a subsequent meeting with the Director General, HM Chief Agricultural Inspector emphasised the need — which we accepted — to achieve proper safety standards for contractors working on Commission land. He also explained the reorganisation of the Agricultural Inspectorate which had created a new specialist senior post to deal with forestry along with some fringe agricultural subjects. 111

Between 1983 and 1986, the Commission co-operated, through the Civil Service Occupational Health Service, with the Institute of Sound and Vibration Research at Southampton University in a project sponsored by HSE to assess the extent to which vibrotactile sensitivity measurements can be used in the objective diagnosis of Vibration White Finger (VWF) — a condition which occurs among users of chain saws. Some 150 chain saw users at five different Forest Districts were involved in the project during 1986. Unfortunately, the evidence has shown that the method cannot be used as a totally reliable diagnostic indicator of VWF. We have therefore decided to resort to the use of a compulsory self-assessment questionnaire which is being designed by the Civil Service Occupational Health Service. One of the measures that can be taken to minimise the incidence of VWF is the use of chain saws designed to reduce vibration. Such anti-vibration (AV) saws have been used exclusively in the Commission since 1970. Of the chain saw users examined in the HSE project, the incidence of VWF among those who had used only AV saws was 16 per cent; for those who had used non-AV saws before 1970 and AV saws subsequently, it was 55 per cent. 112

As part of its reorganisation to provide a service with a greater emphasis upon preventive health care, the Civil Service Occupational Health Service has appointed a Chief Occupational Hygienist who will in due course be supported by a small multi-disciplinary team specialising in the protection of workers from chemical and physical health hazards. We expect his advice to be of value to us in several areas of impending safety legislation. 113



FORESTRY AUTHORITY

LEGISLATION

- Forestry Act 1986* 114 The Forestry Act 1986, which came into operation on 8 September 1986, amended the Forestry Act 1967 to give us the power to issue notices requiring the restocking of land with trees following conviction of the owner or tenant for illegal felling. This power applies to any felling done on or after the effective date of the new Act.
- Watermark Disease* 115 Following a review of the practical measures being taken by local authorities against the bacterium *Erwinia salicis* (watermark disease of willow), we made an amendment* to the Watermark Disease (Local Authorities) Order 1974 to remove Cambridgeshire County Council and the London Borough Councils of Barking, Enfield, Havering, Newham and Redbridge from the list of local authorities with powers to take action against the disease. The Order continues to apply to the County Councils of Bedfordshire, Essex, Hertfordshire, Norfolk and Suffolk.

PRIVATE FORESTRY

- 116 New planting in the private sector was marginally above that achieved in 1985-86. A total of 23,618 hectares was grant-aided under the Commission's schemes (compared with 23,358 hectares the previous year) of which 19,147 hectares comprised new planting (19,019 hectares in 1985-86). Earlier reference has been made to the greater proportion of broadleaves being planted and the encouraging progress of the Broadleaved Woodland Grant Scheme (paragraph 24). Interest in the Forestry Grant Scheme continued. Although the number of applications was only slightly higher than the previous year, the area involved was some 20 per cent greater. This healthy level of interest augurs well for the higher annual planting targets announced for the private sector in the Government's statement of 9 February 1987 (see paragraphs 37-40). Fuller details of grant-aided planting are to be found at Table 2 of Appendix VIII.

FORESTRY RESEARCH COORDINATION COMMITTEE

- 117 The Forestry Research Coordination Committee (FRCC) met four times during the year. Reports were received from three review groups. These covered forestry and the environment, biotic damage, and farming and forestry in the uplands, the latter being complementary to the review group report received last year on the integration of forestry and farming in the lowlands. The Committee's responses to the recommendations on research in these three areas were published in FRCC Information Notes 11, 13 and 14. Two new review groups were established, one on arboriculture and the other on forest economics. The Committee paid particular attention to the coordination of research on farm forestry, and, as part of its response to the review group on farming and forestry in the uplands, has established a sub-committee on research on farm forestry. This sub-committee will take account of the recommendations of the upland and the lowland review groups and report to the FRCC its views on coordination of research in this area. At the same time, the Committee is maintaining close contact on this subject with the Priorities Board for Research and Development in Agriculture and Food, which sees farm forestry as providing opportunities for diversification on farms and has recommended increased research effort in this sector.

*The Watermark Disease (Local Authorities) (Amendment) Order 1986 (SI 1986/1342), which came into operation on 27 August 1986.

RESEARCH

- The Commission's Report on Forest Research, published each autumn, gives a full account of the work carried out or commissioned by our Research Division and other Divisions with responsibility for research in their own fields. The paragraphs below represent a small selection of items of general interest. Other items, including research on air pollution and related matters, are included in the General Review section (paragraphs 28-31). 118
- A new arboricultural research contract amounting to £450,000 over three years was negotiated with the Department of the Environment to begin in January 1987. Studies of plant quality, urban trees and hedgerow trees are included, together with new projects on prevention, control and management of decay and dieback. The well-established Advisory and Information Service continues to receive support and it is proposed to establish a series of plots at key centres to demonstrate good practice in planting trees. 119 *Arboriculture*
- New staff were appointed during the year to strengthen research and advice on wildlife conservation. We have initiated a number of ecological studies, especially in relation to the management of forest and woodland edges. A series of contracts has been commissioned with outside research organisations including some on birds within or close to forest plantations. A joint study with the Nature Conservancy Council has also been commissioned with the Institute of Terrestrial Ecology to examine the wildlife potential of new upland conifer plantations. 120 *Wildlife and Conservation*
- Several research projects are already making a significant contribution to conservation management, with important new findings on red squirrels, woodlarks at Thetford Forest, and black grouse in Wales, the latter in conjunction with the Royal Society for the Protection of Birds (RSPB). The RSPB have also completed the first stage of a study on our behalf into the influence of conifer plantations on bird populations on adjoining moorland in Caithness and Sutherland — the so-called "edge effect". Further studies on this subject are continuing. 121
- Several developments have taken place in this field, which remains of critical importance to upland forestry. Following an EEC workshop, three research projects promoted by the Forestry Commission were approved by the EEC, but because of severe pressure on Community Funds only one is being pursued; this is in association with Oxford University. We have appointed a meteorological physicist to explore further the basic science of storm effects. The Scottish Centre of Agricultural Engineering has completed a contract to determine the force required to extract Sitka spruce roots from the soil. Information of this type is essential for the modelling of root anchorage. 122 *Tree Stability*
- Tree selection and breeding have been primarily based on growth rate and tree form. The oldest Sitka spruce progeny tests are now over 15 years old and hence suitable for non-destructive timber testing. A 'Pilodyn' (an instrument which drives a steel pin into a tree and indicates wood density by measuring resistance to penetration) has shown promise and is now under extensive trial. As density is correlated with timber strength, this assessment will enable the breeder to screen and remove fast-growing families of low wood density. 123 *Genetics*
- We assisted work funded by Fountain Forestry aimed at providing a more precise method of assessing potential growth rates of Sitka spruce in upland areas. A publication setting out the results of this study was being prepared at the end of the year under report. 124 *Growth of Sitka Spruce on Exposed Sites*
- A special project team has been set up to provide an integrated approach towards research and development on upland restocking, with members drawn from Entomology, Physiology and Work Study Branches, and led by a silviculturist. The team's objective is to develop the most cost-effective treatments and systems for restocking. Current lines of research include work on root growth potential in relation to lifting dates and cold storage, insecticide application by electrostatic spraying, mechanical barriers for reducing weevil damage, plant-handling machinery and packaging systems, and methods for site preparation. 125 *Restocking*

- Farm Woodland* 126 Experimentation has concentrated on the evaluation of agro-forestry systems combining wide-spaced conifers and broadleaves with sheep grazing. In the experiment at Glentress in Borders Region referred to in last year's report, pasture growth is measured from sward boxes and microclimate is being assessed continuously to develop an understanding of the effect of tree cover on pasture production. Further experiments have been established in larch at Radnor Forest in Powys, and with six conifer and four broadleaved species at Bronydd Mawr Experimental Farm in Powys, in conjunction with the Welsh Plant Breeding Station. Several short-term experiments to test methods of protecting trees against grazing animals have been established. Later in the year, as potentially major changes in land-use were under consideration, the Research Division was closely involved in discussions with the Ministry of Agriculture on research requirements in all aspects of farm forestry.
- Lowland Forestry* 127 The policy initiative on the role of woodlands as an alternative land use to food crops concerns more-fertile lowland sites, as well as land in the hills at slightly lower elevations, than those planted in recent decades. The range of species of interest in the lowlands is wide and proposals have therefore been formulated for experimental work, combined with demonstrations on representative soils and with a number of species.
- Vegetative Propagation* 128 Overall rooting of 94 per cent was obtained with first and second-cycle 'hardwood' cuttings of hybrid larch, with greater rooting volumes at higher rates of fertiliser. This result, together with those of previous seasons, indicates that a reliable propagation system has been developed for this species.
- Sawing of British Timber* 129 Studies of sawn timber have identified the production parameters which influence dimensional accuracy. Work is now underway to pass on the results of these studies to sawmillers in the form of guidance notes to assist them in optimising such accuracy in the end product.

PLANT HEALTH

- Plant Health Controls* 130 The Import and Export of Trees, Wood and Bark (Health) (Great Britain) Order, 1980 is currently under review with the aim of incorporating new EEC directives which introduce further plant health measures, for example adding to the list of pests and diseases of concern and setting out new controls. A new Order is expected to be promulgated during the coming year, together with explanatory pamphlets.
- Fees for Certain Plant Health Services* 131 In line with Government policy on reducing public expenditure, and under enabling powers in the Agriculture Act 1986, it is planned to bring into force a new Order to provide for fees to be levied for a limited range of plant health services which have hitherto been provided free-of-charge. This requirement will apply to plant health export certification services and to the issue of import licences for normally prohibited material.
- Dutch Elm Disease* 132 Dutch elm disease continues to spread, although some areas in the north of England and parts of Scotland remain relatively lightly affected. Meetings were held during the year with local authorities to review the state of the disease and the actions being taken against it. As a consequence it was concluded that, because of the spread or intensification of the disease in many areas, it was no longer practicable for some local authorities to retain powers of entry etc under the Dutch Elm Disease (Local Authorities) Order 1984; others have had to make considerable reductions in their sanitation controls, now largely centred on urban areas, to ensure a more realistic approach and make more effective use of scarce resources. An amendment to the Order and the associated Dutch Elm (Restriction on Movement of Elms) Order 1984 is planned for later in 1987. This will remove from the list of controlled areas those local authorities no longer practising active sanitation control and promulgate specific details of the reduced controlled areas once these have been agreed with the local authorities concerned.
- Dendroctonus micans* 133 The campaign against *Dendroctonus micans* (the great spruce bark beetle) continues. Surveys of varying intensity were carried out during 1986 in the designated areas. These indicated that the outward spread of *Dendroctonus micans* remains very limited. Only three sites involving three infested trees were identified more than 5 km from the nearest

known previous infestation. All infested trees were felled by the end of March 1987. Growers and merchants in the affected area continue to co-operate wholeheartedly in the control procedures which are monitored by the Dendroctonus Micans Working Group. Special road checks were mounted during the year with the help of local police to determine whether movement licensing requirements were being correctly followed, but no illegal movement of spruce wood was detected.

The breeding facility for *Rhizophagus grandis*, the beetle which is a specific predator of *Dendroctonus micans*, has been further developed. Improvements have been made in hygiene, including ultra-violet irradiation and strict quarantine procedures, leading to substantial reductions in the level of the destructive fungus *Beauveria bassiana*. A new "box breeding" method was successfully introduced saving both space and labour, as well as increasing the survival prospects of the pre-pupae. The rearing and release programme was completed as planned. Studies have shown that *Rhizophagus grandis* is effective at finding its prey and is becoming well established in the affected forests. Although we are somewhat cautious about making predictions, results seem most encouraging so far. It could, however, take seven to eight years before *Rhizophagus grandis* is fully dispersed and exercises maximum biological control. 134

The pheromone trap programme is complementary to our plant health import controls. Its purpose is to provide a back-up to inspections of imported wood and wood products through the use of traps baited with chemicals known to attract specific bark beetles. The traps have been set up at major ports, selected timber yards, ladder pole manufacturers' premises and a number of forest sites. The most significant capture was again that of a single *Ips typographus* at a timber yard at Grangemouth. While this incident in itself is not a cause for alarm, we intend to increase our vigilance at ports of entry, particularly in respect of wood dunnage and pallets. 135 *Pheromone Traps for Exotic Bark Beetles*

Concern has been expressed by some cricket bat willow growers that continued imports of willow plants from Holland could give rise to a spread of the bacterium *Erwinia salicis* (watermark disease of willow). However, the method of plant production in Holland is by one or two-year old cuttings, and Dutch research has shown that the transmission of the disease to such cuttings is extremely unlikely even if taken from a diseased stool. We have therefore concluded, after a careful examination of this research work, that little risk is involved in the Dutch willow plant imports and that there are no grounds on present evidence for imposing a ban on them. 136 *Watermark Disease of Willow*

EDUCATION AND TRAINING

We have continued to maintain close liaison with the colleges which provide further education courses in forestry at craft and diploma levels, and we are glad to report that the changes in the forestry courses at both Cumbria College and the Scottish School of Forestry to which we referred last year have now been successfully established. A small number of our industrial foremen have applied for the final phase of the City and Guilds part-time qualification in forestry, which is acknowledged as being equivalent to the full-time BTEC Diploma. The Colleges also report that employment prospects continue to be good, and certainly much better than for many other disciplines. 137

The main emphasis in our management training this year has been in support of the further development of our automated data-processing systems, on general training in relation to our management development programme, and on training Forest Officer recruits. Our operational training centres at Ae and Dean have carried out a full programme of operator and supervisor training, mainly for our own needs. We have also organised training for outside bodies. This has included courses on broadleaved woodland management mounted on behalf of the Agricultural Development and Advisory Service and the Council of Scottish Agricultural Colleges, and on safety in forest operations arranged on behalf of the Health and Safety Executive. 138

The one-year Youth Training Scheme (YTS) in forestry came to an end in 1986 following the announcement by the Secretary of State for Employment that all 16-year old school leavers would be entitled to participate in a two-year YTS. The design and development of 139

a scheme appropriate to the needs of both employers and trainees was still under discussion between the Manpower Services Commission, YTS managing agents, Trade Unions and employers' representatives at the end of the year.

PUBLIC RELATIONS

- Publications and Public Enquiries* 140 Requests for information about forestry from members of the public, and especially from teachers and school children, continued at a very high level through the year leading to the streamlining and improvement of our public enquiry and schools liaison service. We also plan to make radical improvements to the material provided to schools. We produced the first three of a series of *Forestry Facts* leaflets specifically designed to answer the questions that we are most frequently asked and to provide the statistics that are most often demanded. In addition, we published *British Forestry*; this is described in more detail in paragraph 46.
- Press Briefing* 141 The launch of *British Forestry* and the announcement by the Kymmene Corporation of their intention to build a pulp and paper mill at Irvine (see paragraph 4) provided major opportunities for the Commission to present the Government's forestry policy, and a considerable amount of media coverage resulted. In total, we prepared a new record number of 84 press releases during the year and our Public Information Division handled more requests from journalists and radio and television producers than ever before. Interest in forestry increased during the year from both the media and various environmental and countryside lobby groups. New planting in the uplands, together with the increasing demand for British-grown timber, formed the major elements of this interest.
- European Year of the Environment* 142 We were delighted to host one of the major events to launch European Year of the Environment in March 1987 when Dr David Bellamy, assisted by a large number of school children, planted several thousand oak trees in Sherwood Forest in the shape of a map of Britain. The 25 hectare site, dominated by the 12 hectare "map", will be managed by the Commission purely for conservation and recreation purposes. A joint project with the Conservation Foundation, it enjoyed generous sponsorship from the Aluminium Industries Federation and produced a considerable amount of press and media coverage, especially on radio and television. This project is just one of the most dramatic of a number, all celebrating European Year of the Environment, in which the Commission is undertaking to protect and conserve ancient woodlands throughout Britain for the enjoyment of future generations.



FINANCE

FORESTRY FUND RECEIPTS AND PAYMENTS

- 143 The Grant-in-Aid voted by Parliament forms the Commission's agreed cash limit. For 1986-87 the amount voted was £53.0 million of which £52.5 million was taken into the Forestry Fund, leaving £0.5 million to be handed back to the Exchequer. The actual net call on Exchequer funds (excluding surrenderable disposals receipts) was £51.2 million (£51.4 million in 1985-86), leaving an excess cash balance of £1.3 million in the Forestry Fund which will also be returned to the Exchequer.
- 144 Other receipts from the Commission's activities amounted to £86.7 million against £78.6 million in 1985-86. The increase of £8.1 million (10 per cent) over the previous year stemmed principally from increased volumes of timber being sold at higher prices. Cash receipts from the disposal of land, buildings and plantations for surrender to the Consolidated Fund amounted to £14.5 million of which £11.5 million had been paid by 31 March 1987, leaving a balance of £3.0 million to be surrendered during 1987-88.
- 145 Payments, excluding amounts paid or due to the Consolidated Fund, totalled £137.9 million. These were £7.9 million (6 per cent) more than 1985-86, arising from the effects of inflation on pay awards and other costs, a higher number of payments made under our grant schemes and increased conservation and environmental programmes.
- 146 The statement of Forestry Fund Receipts and Payments, including notes thereon, appears at pages 48 to 49.

FORESTRY AUTHORITY SERVICES

- 147 Of the total net call on Exchequer funds, £18.2 million was spent on Forestry Authority services compared with £16.5 million in the previous year. The main reason for the size of the increase (10 per cent) was the impact of the Broadleaved Woodland Grant Scheme in the first full year since its introduction, as well as a rise in the cost of administration, particularly in respect of consultation, over the whole range of grant schemes and felling licensing.
- 148 During the 1982-87 quinquennium the net annual cost of Forestry Authority services rose by 23 per cent in real terms, due principally to a 50 per cent increase in the area planted by private woodland owners with the aid of grants. There was also a significant percentage increase in expenditure incurred on Publications, Shows and Information (up by 30 per cent). This was due both to an enormous increase in demand for information from the public and to an unprecedented surge in media interest in forestry policy and practice. Research expenditure, on the other hand, fluctuated very little in real terms over the five-year period.
- 149 The statement of expenditure on Forestry Authority services, together with notes, appears on pages 50 to 51.

FORESTRY ENTERPRISE

1986-87 Accounts

- 150 A number of changes have been made to the format of the Enterprise Accounts, with the agreement of the Treasury and the National Audit Office, the main one being to accommodate the explanation of the accounting methodology in the Notes to the Accounts rather than in the Foreword, which now relates to all the Accounts printed in the Annual Report. More significant changes will be introduced in 1987-88, when the Plantation and Trading Accounts will be replaced by an Operating Account with the aim of identifying more clearly the annual surplus earned by the Commission through the increase in the value of plantations.

Favourable variances on the Plantations Account, which indicate the extent to which the 3 per cent target rate has been exceeded, totalled £29.2 million. Income exceeded standards by £13.6 million, principally because of a rise in timber prices of approximately 4 per cent in real terms. Expenditure incurred was £15.6 million less than standards with savings of £12.7 million in forest costs, due mainly to improvements in harvesting efficiency, and of £2.9 million in administrative expenses following the management reorganisation earlier in the quinquennium. 151

The Trading Account showed a deficit of £0.2 million on non-plantation commercial activities. This deficit was directly attributable to higher costs of administering the surplus estate coupled with a lower offset in the surplus from property sales. 152

*Third Quinquennial
Financial Review*

The accounts of the Forestry Enterprise were reconstructed at 1 April 1972 with the intention that at five-yearly intervals the accounts would be revalued and performance measured in relation to target rates of return in real terms, which are currently 3 per cent on forest estate assets and 5 per cent on other assets. 153

The third quinquennium ended on 31 March 1987 and the Special Notes to the 1986-87 Accounts at pages 68 to 71 reflect the results of the financial review. This review had three main functions: 154

a to revalue the assets and staff superannuation liability to provide both the starting level of capital to be serviced in the next review period and the plantation standards against which actual income and expenditure will be compared, as interim measurements of performance, during that period;

b to analyse performance over the quinquennium and, in conjunction with the revaluation, assess the rate of return achievable over the whole rotation on the forest estate investment;

c to calculate the subsidies to be provided for the new planting and restocking expected to be undertaken in the next review period and provide an assessment of the forest recreation and amenity subsidy for this period.

The next review period has been shortened to three years covering 1987-90. 155

Revaluation

A revaluation of the plantations, fixed assets, stock and the provision for staff superannuation liability was carried out at 31 March 1987. Details are given in Special Note 1 to the Accounts. The overall effect of the revaluation is to reduce the plantation valuation by £17.0 million to £1,611.7 million* and total assets by £18.5 million to £1,729.5 million. After adjustments for an increase in the superannuation provision of £16.9 million, opening capital at 1 April 1987 will be re-stated as £1,483.5 million. 156
157

*Measurement of
Performance
Plantations*

Performance* is measured in terms of variances from the cash flows built into the opening valuation, both during the quinquennium and as a result of the revaluation, expressed as a rate of return over the whole rotation. Favourable variances indicate that the target rate of return of 3 per cent has been exceeded. Where adverse variances are shown they still imply a positive return, albeit below 3 per cent. 158

Within the 1982-87 quinquennium actual income received was higher and expenditure lower than the cash flow targets by £85.1 million in £'87, primarily as a result of higher timber prices and improvements in harvesting productivity. At the end of the quinquennium revised assessments of future volumes of work, outputs, costs and prices resulted in a reduction in the plantation valuation of £17.0 million. The total surplus from

* Our assessment in the immediate aftermath of the storm on 16 October 1987 was that its effect both on the valuation at 31 March 1987 and the assessment of performance would not have been material.

1982 to the end of the rotation is therefore expected to exceed the 3 per cent target by £68.1 million. This can be expressed as a rate of 3.1 per cent with the benefit of subsidies and 3 per cent without. An assessment has also been made of the cumulative return from the capital reconstruction in 1972 to the end of the rotation; this is 3.1 per cent with subsidies and 2.7 per cent without.

Commercial Recreation (campsites and forest cabins) 159 Over the quinquennium 1982-87, there was a total surplus in £'87 of £0.7 million. This is equivalent to an average real rate of return of 7.9 per cent against the target rate of 5 per cent. However, the rate of return has shown a decline during the period to 5.4 per cent in 1986-87. This was principally due to an increasingly competitive market.

Surplus Estate 160 The surplus properties we manage comprise a mixture of residential and agricultural subjects. In the main, these properties, which are destined for sale whenever practicable, are relatively expensive to maintain because of their type, age and situation; and, in the case of houses, income is restricted by statutory controls. Expressed in £'87 there was an operational deficit of £8.5 million for the quinquennium. This deficit becomes a surplus of £1.0 million, however, after the profit of £9.5 million on completed sales is added back.

Other Commercial Activities 161 Trading Accounts are also prepared for fishing and shooting, agency and the joint management scheme at Lake Vyrnwy. These accounts show an overall surplus in the quinquennium of £1.8 million (in £'87). Further details are provided in Special Note 2 to the Forestry Enterprise Accounts.

Recalculation of Subsidies

Planting subsidies for 1987-90 162 Calculations have been made, applying a discount rate of 3 per cent, of the net discounted revenues expected from planned investments in new planting and restocking in the next review period, with the results being weighted to produce average Forest District and Conservancy subsidies per hectare. The Conservancy weighted subsidies, with the implicit internal rates of return, are detailed in Special Note 3 to the Accounts on page 71.

163 Despite a lower level in real terms for long-term timber price assumptions than those used in the 1982 revaluation, the internal rate of return expected on new planting and restocking is projected to rise to over 2½ per cent, against 2¼ per cent for 1982-87 and 1¾ per cent for 1977-82. This has been achieved through the introduction of improved working practices leading to lower expenditure. The projected rates of return are affected by the new broadleaves policy; in the absence of such a policy the overall rate of return would increase to about 3 per cent for 1987-90.

164 The improvement in the forecast rates of return will reduce the total subsidies required in the next review period from £22.8 million (applying the 1982-87 subsidy levels) to some £9.7 million. The total subsidy which can be attributed to the loss in revenue from planting broadleaves rather than conifers is approximately £6.1 million.

Forest Recreation and Amenity Subsidy 165 The total subsidy claimed in the 1982-87 quinquennium was £27.1 million (in £'87) compared to the £26.7 million forecast. For the next review period the annual subsidy has been set at £7.0 million in real terms.

Accounts

166 The accounts of the Forestry Enterprise, including Special Notes together with the Comptroller and Auditor General's report thereon, appear on pages 52 to 72.

A table of salient facts is provided on the following page. This gives details of a mixture of financial and physical achievements in the last five years, as well as a number of performance measurements. 167

DAVID MONTGOMERY, *Chairman*
G.J. FRANCIS, *Deputy Chairman and
Director General*
R.T. BRADLEY
I.D. COUTTS
D.L. FOOT
J. FORBES
W.F.E. FORBES
G.O. HUTCHISON
J.D. POLLOCK
D.T.J. RUTHERFORD
C.R. WOOSNAM

P.J. CLARKE, *Secretary*
FORESTRY COMMISSION
231 Corstorphine Road
Edinburgh EH12 7AT

FORESTRY AUTHORITY AND FORESTRY ENTERPRISE

SALIENT FACTS

		Year ended 31 March				
Forestry Authority		1983	1984	1985	1986	1987
Grant-in-Aid	£('87) million	14.7	15.4	15.8	16.9	18.2
Area planted by private sector on which grants were paid						
New planting	thousands hectares	12.5	16.7	16.0	19.0	19.1
Restocking	thousands hectares	3.1	3.1	3.1	4.3	4.5
Private woodlands grants and administration costs	£('87) million	7.7	8.5	8.1	9.4	10.5
Area covered by grant schemes	thousands hectares	644	683	701	735	778
Consultation and administration costs of grant schemes	£('87) per hectare managed	3.3	2.9	3.0	3.6	4.1
Research	£('87) million	8.4	8.4	8.7	8.3	8.8
Forestry Enterprise						
Grant-in-Aid	£('87) million	53.4	51.2	44.2	37.4	34.3
Proceeds from sales of properties and plantations	£('87) million	17.5	27.2	24.0	17.4	14.7
Sales of timber	£('87) million	45.9	50.3	51.1	58.2	64.8
Sales of timber	Millions cubic metres	2.8	2.9	2.9	3.1	3.3
Surplus (income less direct costs) from sales of timber	£('87) per cubic metre	6.2	8.3	8.8	9.6	11.5
Total area managed	thousands hectares	1251	1209	1181	1166	1156
Forest land	thousands hectares	963	949	935	928	926
New planting	thousands hectares	8.9	8.4	5.1	4.3	5.3
Forest cost	£('87) per hectare	674	656	676	487	728
Restocking	thousands hectares	5.8	6.8	5.9	7.3	8.0
Forest cost	£('87) per hectare	992	993	864	960	822
Forest recreation and amenity net expenditure	£('87) million	4.5	5.0	5.0	6.0	6.6
Commercial recreation (return on assets employed)	%	10.8	8.8	8.4	5.7	5.4
Forestry Authority and Forestry Enterprise						
Staff at 31 March	Numbers	7249	6836	6273	5967	5798

FINANCIAL
STATEMENTS
AND
ACCOUNTS
1986 – 87



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FORESTRY AUTHORITY AND FORESTRY ENTERPRISE

FOREWORD

1. CONSTITUTIONAL STATUS

- (a) The Forestry Commission was established in 1919. Under legislation now consolidated mainly in the Forestry Act 1967 it is charged with the general duties of promoting the interests of forestry, the establishment and maintenance of adequate reserves of growing trees, the production and supply of timber and the development of the recreational potential of the forests it manages.
- (b) The Commission has the legal status of and functions as a Government Department. It reports directly to Forestry Ministers, namely the Minister of Agriculture, Fisheries and Food, the Secretary of State for Scotland and the Secretary of State for Wales, to whom it is responsible for advice on forestry policy and for the implementation of that policy. It is, however, different from the usual Departments of State in that there is a statutorily-appointed Chairman and Board of Commissioners with prescribed duties and powers.

2. FUNCTIONS AND OBJECTIVES

The Commission fulfils two distinct roles:

- (a) As the Forestry Authority it acts as adviser on Government forestry policy and undertakes functions such as research, technical advice, plant health and administration of Grant-in-Aid for the private sector.
- (b) As the Forestry Enterprise it acts as a trading body primarily responsible for the management of its own forests but with other functions such as the protection and enhancement of the environment and the provision of recreational facilities.

3. ACCOUNTS

The Forestry Commission produces the following accounts and financial statements:

- (a) the Appropriation Account, which, in accordance with the Appropriation and Exchequer and Audit Department Acts, sets out the funds voted by Parliament for the Forestry Commission as a whole, and the amounts withdrawn therefrom into the Forestry Fund;
- (b) Statement of Forestry Fund Receipts and Payments;
- (c) Statement detailing the net expenditure on Forestry Authority Services and the consequential amount of Grant-in-Aid appropriated for the Forestry Authority;
- (d) accounts for the Forestry Enterprise in a format approved by the Treasury.

The Appropriation Account is published separately along with such accounts for other Government Departments. The other three accounts or statements are published in the Forestry Commission Annual Report. All the accounts, except the statement of expenditure on Forestry Authority Services, are audited by the Comptroller and Auditor General.

4. ACCOUNTING PRINCIPLES

The Appropriation Account and Statement of Forestry Fund Receipts and Payments are prepared on a cash basis. The Statement of Expenditure on Forestry Authority Services and the Forestry Enterprise Balance Sheet and Accounts are prepared on an accruals basis modified in the latter to include the expectation value of cash flows from forest plantations.

Accounting policies adopted in the Forestry Enterprise accounts are detailed in Note 1 to these accounts. The policies defined therein in relation to the valuation of machinery, plant and equipment and stocks of consumable materials and supplies are followed in completion of the Statement of Expenditure on Forestry Authority Services.

5. MARKET VALUE OF PROPERTIES INCLUDING PLANTATIONS

Non-Afforested Land and Buildings

These properties were revalued as at 31 March 1987 generally on an open market value basis and the valuation of £74.7 million has been brought into the Enterprise Accounts to replace the previously indexed figures.

Plantations

The Plantations (land, timber and roads) were revalued on an expectation value basis as at 31 March 1987 and an assessment was also made of their market value at the same date.

The market value is assessed at £1,220 million which is £392 million lower than the revaluation of £1,612 million disclosed in Special Note 1 to the Forestry Enterprise Accounts.

The market value assessment was carried out on the basis of the Forestry Estate being sold in an orderly manner as between a willing seller and a willing buyer in full accordance with public accountability and assuming its existing use. It was further assumed that no restraints existed, as they do in practice, from title, statute and environmental considerations. The assessment took due account of prices realised in the Commission's woodland sales since 1984 with such prices reflecting the financial and other criteria adopted by purchasers. On the other hand the restated expectation value is assessed using the Commission's target rate of return of 3 per cent and it is for this reason that the two values can be expected to differ.

**FORESTRY AUTHORITY AND FORESTRY ENTERPRISE
STATEMENT OF FORESTRY FUND RECEIPTS AND PAYMENTS
FOR THE YEAR ENDED 31 MARCH 1987**

	£ thousand	<i>Previous Year £ thousand</i>
<i>Receipts</i>		
Sales of timber	71,655	64,070
Miscellaneous	14,719	14,468
Disposal of properties and plantations — by exchanges	289	52
	<hr/>	<hr/>
	86,663	78,590
 Grant-in-Aid		
Forestry Enterprise ...	34,288	36,467
Forestry Authority ...	18,212	16,462
	<hr/>	<hr/>
	52,500	52,929
Disposal of properties and plantations — cash received payable to the Consolidated Fund	14,527	17,238
	<hr/>	<hr/>
	153,690	148,757
Balance brought forward at 1 April 1986	6,262	4,066
	<hr/>	<hr/>
	159,952	152,823
 <i>Payments</i>		
Salaries, wages and related expenses	57,205	55,589
Pensions and gratuities to retired staff	13,570	13,063
Materials, contract services and general expenses	43,667	40,397
Acquisition of land, buildings and plantations and construction of buildings	3,633	2,869
Plant, machinery and equipment	7,707	7,181
Grants to private woodland owners (£7,323,098), universities, institutions etc	7,533	6,816
Remittances of VAT to Customs and Excise ...	4,557	4,050
	<hr/>	<hr/>
	137,872	129,965
Payments to the Consolidated Fund		
— cash received from sales of properties and plantations, including £4,708,440 brought forward from 1985-86	16,189	15,418
— excess cash balance brought forward from 1985-86	1,554	1,178
	<hr/>	<hr/>
	155,615	146,561
Balance carried forward at 31 March 1987 to be surrendered to the Consolidated Fund during 1987-88	4,337	6,262
	<hr/>	<hr/>
	159,952	152,823
	<hr/> <hr/>	<hr/> <hr/>

G J Francis
Accounting Officer
10 September 1987

I certify that I have examined the above financial statement in accordance with S44(3) of the Forestry Act 1967 and the National Audit Office auditing standards.

In my opinion the financial statement properly presents the receipts and payments of the Forestry Fund for the year ended 31 March 1987 and complies with S44(2) of the Forestry Act 1967.

I have no observations to make on this financial statement.

7 October 1987
National Audit Office

Gordon Downey
Comptroller and Auditor General

NOTES

General

1. Expenditure incurred by the Forestry Commissioners in the exercise of their powers in the performance of their duties is financed from the Forestry Fund which was constituted under Section 8 of the Forestry Act 1919. All sums received by the Commissioners in 1986-87 were paid into this Fund.
2. Receipts and payments are shown inclusive of VAT where applicable.

Grant-in-Aid

3. The Grant-in-Aid, which also forms the agreed cash limit, is determined for each year on the basis of Supply Estimates prepared in advance setting out the expected receipts and payments calculated at estimated outturn prices. Pursuant to Section 42(4) of the Forestry Act 1967 capital sums received from sales of land, etc are paid into the Forestry Fund although they do not affect the calculation of the Grant-in-Aid. However such receipts are surrendered from the Forestry Fund to the Consolidated Fund as directed by Ministers under Section 41(4a) together with the excess cash balance held at the end of each financial year.

Receipts

4. The Grant-in-Aid of the Forestry Fund voted by Parliament for 1986-87 was £53,008,000 of which £52,500,000 was drawn into the Forestry Fund account leaving £508,000 to be surrendered from the Vote to the Consolidated Fund.
5. Receipts from the sale of timber exceeded the 1985-86 level by £7,585,000. This stems from increasing programmes and higher prices.
6. Miscellaneous receipts were £251,000 more than 1985-86 mainly due to Silviculture income increasing by £316,000, and increased receipts from disposal of surplus Vehicles, Machinery and Equipment amounting to £211,000 but offset by reductions on general administration receipts amounting to £343,000 due to the low incidence of fires and the resultant compensation.

Payments

7. Payments of salaries, wages and related expenses, were £1,616,000 (3 per cent) more than 1985-86. Increased rates of pay and allowances were partially offset by reduced numbers of employees.
8. Payments of pensions and gratuities to retired staff increased by £507,000 (4 per cent) reflecting both the increasing number of pensioners and average pension value.
9. Payments for materials, contract services and general expenses increased by £3,270,000 (8 per cent) mainly due to the effects of price inflation, the increased use of contractors and additional expenditure on conservation and the environment.
10. Payments for land acquisition and building construction were £764,000 more than 1985-86. Expenditure on the acquisition of new land for planting was up by £568,000 and on building construction by £196,000.
11. Payments for purchase of plant, machinery and equipment increased by £526,000 over 1985-86 represented by a reduction of £435,000 on machinery and vehicles offset by an increase of £961,000 on office and computer equipment.
12. Payments of grants to private woodland owners were £688,190 more than 1985-86 reflecting the higher take-up of the Forestry Grant Scheme and the Broadleaved Woodland Grants.
13. Remittances of VAT to Customs and Excise increased by £507,000 mainly due to the higher level of output tax from increased receipts.

Balance carried forward at 31 March 1987

14. The balance amounting to £4,337,062 carried forward at 31 March 1987 will be paid into the Consolidated Fund in 1987-88 in accordance with the Ministerial direction given under Section 41(4a) of the Forestry Act 1967 as amended. It comprises £3,046,103 relating to the unremitted balance of disposal proceeds received in 1986-87 and £1,290,959 in respect of the excess cash balance remaining at 31 March 1987. Disposal receipts from sale of properties and plantations, payable to the Consolidated Fund, totalled £14,527,103 of which £11,481,000 had been paid over by 31 March 1987 leaving the balance of £3,046,103 shown above.

FORESTRY AUTHORITY SERVICES
STATEMENT OF EXPENDITURE
FOR THE YEAR ENDED 31 MARCH 1987

	£ thousand	<i>Previous Year £ thousand</i>
Services to private woodland owners for grants and advisory services		
Forestry Grant Scheme	4,405	4,703
Broadleaved Grant Scheme	1,155	41
Basis I	22	22
Basis II: Planting Grants	204	196
Management Grants	995	1,069
Basis III: Basic Grants	40	87
Broadleaved Supplement	16	35
Management Grants	288	294
Native Pinewood Planting and Management Grants	1	8
Small Woods and Other Planting Grants	85	74
Miscellaneous (including Labour oncost)	114	110
Administrative expenses	3,225*	2,552
	10,550	9,191
Less: Miscellaneous income	35	55
	10,515	9,136
Special Services		
Licensing of Felling	674*	585
Information, Shows and Publications net cost (including £1,232,000* administrative expenses)	1,239	1,163
General administration (EEC and other regulatory duties and including £1,661,000* administrative expenses)	1,807	1,816
	3,720	3,564
Research		
Silviculture	2,401	2,224
Arboreta	388	332
Genetics	693	669
Physiology	341	290
Seed Research	110	102
Site Studies	618	525
Wildlife	226	206
Pathology	514	455
Entomology	532	417
Mensuration	260	191
Wood Utilisation	253	270
Statistics	29	—
Communications	220	138
	6,585	5,819
Work Study	916	790
Forest Survey	1,297	1,479
	8,798	8,088
Total (including £2,603,000* administrative expenses)	4,840	4,447
Less: Allocation to Forestry Enterprise (Plantations account)	3,958	3,641
	18,193	16,341
Net total expenditure	£ thousand	
Change in assets		
Increase — Current	26	(71)
Decrease — Fixed	(7)	192
Net increase	19	121
Amount of Grant-in-Aid appropriated for the Forestry Authority	18,212	16,462

*Note 15 of Forestry Enterprise Accounts page 65 (£9.4 million)

NOTES

Services to Private Woodland Owners

1. Net expenditure rose in the year by £1,379,000 (15 per cent) due principally to the impact of the Broadleaved Woodland Grant Scheme on grants paid and administrative costs in the first full financial year since its introduction in October 1985 (grants being paid on 1,635 hectares compared with 75 hectares in 1985-86).

Special Services

2. The greater number of felling licences issued in 1986-87 (2,097 compared with 1,418 in 1985-86) and the consequential increase in administrative expenditure was due largely to the effect of the tree felling controls introduced in December 1985 which reduced the volume of timber that may be felled without a licence.

Research

3. The total cost of Research activities, which includes technical services to management, was £8,798,000 being £710,000 (8.5 per cent) higher than the previous year.

4. During the 1982-87 quinquennium 55 per cent of the net cost of Research was charged to the Forestry Enterprise and included in the Plantations account under forest costs. This allocation amounts to £4,840,000 in 1986-87, reducing the cost chargeable to the Forestry Authority to £3,958,000.

**FORESTRY ENTERPRISE
BALANCE SHEET
AS AT 31 MARCH 1987**

	<i>Notes</i>	£ million	<i>Previous Year £ million</i>
FIXED ASSETS			
Plantations ...		1,628.7	1,492.7
Other tangible assets	2	97.0	96.1
		1,725.7	1,588.8
CURRENT ASSETS			
Stocks	3	10.9	10.8
Debtors	4	14.4	13.0
Cash at banks and in hand	5	5.5	7.4
		30.8	31.2
CREDITORS — amounts falling due within one year	6	8.5	11.3
NET CURRENT ASSETS		22.3	19.9
TOTAL ASSETS LESS CURRENT LIABILITIES		1,748.0	1,608.7
PROVISION FOR SUPERANNUATION	7	229.1	217.5
CAPITAL AND RESERVES			
Capital	8	1,151.5	1,104.9
Revaluation Reserve	10	283.3	231.2
Plantations Account Variance		80.9	51.7
Trading Account ...		3.2	3.4
		1,518.9	1,391.2
		1,748.0	1,608.7

The notes on pages 56 to 71 form part of these Accounts.

G J Francis
Accounting Officer
5 November 1987

I certify that I have examined the financial statements on pages 52 to 71 in accordance with the provisions of Section 5 of the Exchequer and Audit Departments Act 1921 and the National Audit Office auditing standards.

Subject to the material uncertainty as to the revised value of the plantations referred to in paragraphs 1 to 6 of my report, in my opinion the financial statements give under the principles embodied in the accounting policies described in Note 1, a true and fair view of the state of affairs of the Forestry Enterprise activities of the Forestry Commission at 31 March 1987 and of its results and source and application of funds for the year then ended and have been properly prepared in accordance with Section 5 of the Exchequer and Audit Departments Act 1921 and directions made thereunder.

John Bourn
Comptroller and Auditor General

15 January 1988
National Audit Office

For Report of Comptroller and Auditor General see page 72

**FORESTRY ENTERPRISE
PLANTATIONS ACCOUNT
FOR THE YEAR ENDED 31 MARCH 1987**

	<i>Notes</i>	£ million	£ million	£ million	£ million	<i>Previous Year £ million</i>
At 1 April 1986:						
897,556 hectares	1(d)				1,492.7	1,335.6
Revaluation surplus	10				53.6	80.7
Balance brought forward revalued					1,546.3	1,416.3
		Establish- ment and Maintenance	Harvest- ing and Marketing	Forest Recreation and Amenity		
Income		(1.0)	(64.8)	(1.0)		
Surplus on sale of properties and plantations	13	(1.3)	—	—		
		(2.3)	(64.8)	(1.0)	(68.1)	(60.5)
Expenditure						
Forest costs		30.3	26.7	4.9		
Administrative expenses	15	11.8	11.7	2.5		
		42.1	38.4	7.4	87.9	82.5
Notional interest charge	12	47.5	0.8	0.2	48.5	44.2
Forest recreation and amenity subsidy ...	9				(6.6)	(5.8)
Planting and restocking subsidies	9				(8.5)	(6.7)
					1,599.5	1,470.0
At 31 March 1987:						
899,678 hectares	1(d)				1,628.7	1,492.7
Favourable variance from standard ...					29.2	22.7
Favourable variance from previous year					51.7	29.0
Favourable variance to date carried forward					80.9	51.7

The notes on pages 56 to 71 form part of these Accounts.

FORESTRY ENTERPRISE
TRADING ACCOUNT (other non-plantation commercial activities)
FOR THE YEAR ENDED 31 MARCH 1987

	<i>Notes</i>	£ million	<i>Previous Year £ million</i>
Income		6.3	6.1
Surplus on sale of properties	13	1.2	1.5
		<hr/> 7.5	<hr/> 7.6
 Expenditure			
Operating costs		4.4	4.3
Administrative expenses	15	2.0	1.7
		<hr/> 6.4	<hr/> 6.0
Trading account surplus before interest		1.1	1.6
Notional interest charge for use of ancillary assets	12	0.1	0.1
		<hr/> 1.0	<hr/> 1.5
Operating surplus		1.0	1.5
Notional interest charge	12	1.2	1.1
		<hr/> (0.2)	<hr/> 0.4
Surplus/(Deficit) for year	14	(0.2)	0.4
Surplus from previous year		3.4	3.0
		<hr/> 3.2	<hr/> 3.4
Surplus to date carried forward		<hr/> 3.2	<hr/> 3.4

The notes on pages 56 to 71 form part of these Accounts

FORESTRY ENTERPRISE
STATEMENT OF SOURCE AND APPLICATION OF FUNDS
FOR THE YEAR ENDED 31 MARCH 1987

	<i>Notes</i>	£ million	<i>Previous year £ million</i>
SOURCE OF FUNDS			
Trading account surplus before notional interest		1.1	1.6
Grant-in-Aid	9	34.3	36.4
Proceeds from sale of properties	13	14.7	17.0
Proceeds from sale of other tangible fixed assets	2	0.9	1.1
Employees' superannuation contributions	7	1.0	1.0
		<hr/> 52.0 <hr/>	<hr/> 57.1 <hr/>
APPLICATION OF FUNDS			
Net expenditure on Plantations (£87.9 million expenditure less £68.1 million income)		19.8	22.0
Adjustments for items not involving the movement of funds			
Depreciation	2	6.9	6.5
Employers' notional superannuation contributions	7	9.7	10.4
Book value of land newly planted in year included in forest costs	11	2.2	1.7
Book value of disposals and reclassifications included in forest costs	13	(4.4)	(7.4)
Surplus on sale of properties	13	(4.6)	(5.2)
		<hr/> 9.8 <hr/>	<hr/> 6.0 <hr/>
		10.0	16.0
Purchase of other tangible fixed assets ...	2	10.2	8.7
Purchase of freehold rights of properties ...		0.1	0.4
Monies surrenderable to Consolidated Fund	8	15.8	18.7
Superannuation payments	7	13.5	13.1
		<hr/> 49.6 <hr/>	<hr/> 56.9 <hr/>
		2.4	0.2
INCREASE IN WORKING CAPITAL			
Components of increase/(decrease) in working capital			
Stocks	3	0.1	0.1
Debtors	4	1.4	0.4
Creditors	6	2.8	(2.4)
		<hr/> 4.3 <hr/>	<hr/> (1.9) <hr/>
Movement in net liquid funds:			
Increase/(decrease) in cash at banks and in hand	5	(1.9)	2.1
		<hr/> 2.4 <hr/>	<hr/> 0.2 <hr/>

The notes on pages 56 to 71 form part of these Accounts.

FORESTRY ENTERPRISE NOTES TO THE ACCOUNTS

1. ACCOUNTING POLICIES

(a) General

The key factor in accounting for forestry is the determination of satisfactory performance indicators for a crop whose typical rotation cycle can span 50 years for coniferous trees and more than 100 years for broadleaved trees. Traditional measures of profitability can be established only when the Forestry Enterprise attains a state which is financially self-perpetuating. At that stage revenue would be sufficient to re-establish the area harvested, maintain the woodlands and provide a return on funds invested. The Enterprise is unlikely to achieve this until beyond the turn of the century because of the relative immaturity of its plantations.

(b) Form of Accounts

Since 1972 a form of accounts, based on the expectation value concept, has been in use with periodic reviews of asset valuations, subsidies and performance at 5 yearly intervals (quinquennia) up to 31 March 1987 and thereafter at 3 yearly intervals (triennia). The principal aims are:—

- (i) to establish, at the start of each review period, an asset valuation capable of earning a rate of return equivalent to the maximum that could be earned in northern Europe on good sites close to markets;
- (ii) to measure performance against the target rate of return referred to above by comparison of changes in the value of the growing crop with actual expenditure and income incurred;
- (iii) to disclose subsidies to cover new investments and other expenditures not able to achieve the target rate of return;
- (iv) to measure the difference between the target rate of return and that set for other public sector bodies.

The accounts comprise:—

- (i) Balance Sheet.
- (ii) Plantations account which shows both the cumulative and in year variance between the actual costs and incomes and the standard cash flows built into the valuation, thereby indicating an interim measurement of performance against the assessments made at the start of the review period.
- (iii) Trading account which shows both the cumulative and in year surpluses or deficits achieved against the target rate of return for other commercial activities.
- (iv) Statement of Source and Application of Funds.
- (v) Notes to the Accounts which provide further analysis of amounts in the Balance Sheet, Plantations and Trading accounts.
- (vi) For the final year of the review period (1986-87 being the final year of the 1982-87 quinquennium) Special Notes which provide details of:—
 - (1) the revaluation of assets and liabilities which provide the starting point for the next review period (a triennium);
 - (2) an overall measurement of the rate of return achievable over the whole rotation on Plantations and on Other Trading activities for the review period;
 - (3) the reassessment of planting and restocking subsidies for the next review period resulting from changed assumptions about future work, outputs, costs and prices.

(c) Target rate of return

The Commission is set a target rate of return of 3 per cent in real terms on its forest estate assets and any new investment therein, and the required rate of return for public sector trading bodies, currently 5 per cent, on its commercial recreation assets and its surplus assets (ie those assets not required for forest estate purposes which are intended for disposal as and when practicable).

(d) Investment valuation

At the end of each review period plantations and other tangible fixed assets are revalued on the following bases by professionally qualified staff employed by the Forestry Commission:—

Plantations (Timber, Land and Roads)	—	on an expectation basis by estimating future expenditures and incomes, including the land value at current prices and discounting these at the target rate of return.
Land and Buildings	—	on an open market basis wherever possible.
Machinery, plant and equipment	—	at current replacement cost.

Notes to the Accounts (continued)

In addition, the liability for future superannuation benefits is revalued by the Government Actuary.

From this information and the Balance Sheet valuation of net current assets, the capital, which represents the Exchequer's investment in the Forestry Enterprise, is reconstructed with amalgamation therein of balances on the Revaluation Reserve, Plantations Variance and Trading Accounts. The resulting figures provide a revised Balance Sheet to open the next review period.

During the review period the valuation of plantations and associated other tangible fixed assets is updated annually using a general price index since no industry index is available. The surplus estate and commercial recreation assets are updated by professionally determined in-house indices. All such revaluation surpluses and deficits are taken to the revaluation reserve.

Apart from acquisitions and disposals there are physical changes in the crop arising from growth and removal of timber. These changes which currently enhance the value of the plantations, are reflected in the standard valuation in the Plantations account by a reduction both in the future cash flows and the period over which they are discounted as the crop moves one year nearer to maturity.

(e) Subsidies

Subsidies are dealt with as follows:-

- (i) planting and restocking subsidies — the extent to which investment in both new planting and restocking is estimated to be incapable of earning the target rate of return;
- (ii) forest recreation and amenity subsidy — the net cost of the provision of recreational facilities for which commercial objectives cannot be set.

These subsidies are allocated out of the Grant-in-Aid in order to maintain the valuation of assets and liabilities at such a level as will service the target rate of return. The difference between the target rate of return and that set for public sector trading bodies is identified as the 'Forestry Subsidy' and is a measure of the opportunity cost of new investment in forestry.

The extent of the subsidies and their calculation are detailed further in Notes 20 and 21.

(f) Measurement of Performance

Plantations

At the current stage of the Commission's development the plantations are comparatively immature and the operations are thus not yet self-financing. However the crop continues to grow in value and financial performance is therefore measured by comparing changes in the value of the crop against actual expenditure and income incurred. Revaluations of the plantations are however only carried out at present on a five yearly cycle (three from 1 April 1987) and in order to provide interim measurements a standard value is assessed annually based on the reduction in the amounts and timings of future cash flows built into the opening valuation.

The methodology adopted for the interim and overall assessment is as follows:—

- | | |
|---|---|
| Interim assessment between revaluations | — by recording, in each of the annual accounts in the review period, the differences between the forecast cash flows in the plantation valuation and the actual cash flows. The differences are depicted in the Plantations account as favourable or adverse variances against the target of 3 per cent. |
| Overall assessment after revaluation | — by identification in Special Notes appended to the accounts of the final year of the review period (in these accounts for the 1982-87 quinquennium) of:— <ul style="list-style-type: none">(i) the differences between the Balance Sheet and the revalued asset figures (representing the future variances that may arise during the remainder of the rotation);(ii) the consequential adjustment to the cumulative variances that have arisen within the review period as shown in the Plantations accounts (suitably adjusted for inflation);(iii) The use of the adjusted total variance (within and beyond the quinquennium) as the basis for the expression of the rate of return that is expected to be achieved over the whole rotation on the investment valuation set both at the beginning of the review period and the capital reconstruction in 1972. |

Surplus Estate and Commercial Recreation

Operational performance is measured in the conventional manner by identification of the surplus, or deficit, prior to interest, as a percentage return on assets employed for comparison with the target rate of 5 per cent in real terms.

(g) Accounting Concepts

Since the measurements of performance are against target rates of return in real terms the accounting records of the Forestry Commission are maintained on a modified current cost basis, which adjusts incomes and expenditures using the implicit GDP price deflator, and the accounts are prepared accordingly. Gearing adjustments are not made because there is no external borrowing and no adjustment is made to reflect the impact of price changes on the financing of monetary working capital since it is considered to be immaterial. Supplementary historical cost statements are not prepared because in the opinion of the Commissioners this would be an unnecessary costly exercise.

Notes to the Accounts (continued)

Without limiting the information given, the accounts meet the requirements of the Companies Act 1985 and of the Statements of Standard Accountancy Practice where relevant.

(h) Depreciation

Depreciation is provided on all tangible fixed assets except plantations, freehold and leasehold land at rates calculated to write off the valuation, less estimated residual values, of each asset evenly over its expected useful life as follows:—

Freehold buildings	—	over 20 to 80 years
Leasehold buildings	—	over the lease term
Plant and machinery	—	over 3 to 16 years
Office equipment	—	over 4 to 20 years

(i) Stocks

Finished goods and work in progress are valued as follows:—

- (i) Timber, plants and livestock at net realisable value.
- (ii) Seed at current replacement cost or net realisable value whichever is the lower.
- (iii) Consumable materials and supplies at current replacement cost.

Net realisable value is based on estimated selling price less costs expected to be incurred to completion and disposal.

(j) Research

The Research expenditure of the Forestry Commission is identified in total in the Forestry Authority accounts. The expenditure is subsequently allocated between the Forestry Authority and the Forestry Enterprise in the ratio of 45:55 based on assessment of workloads with the Enterprise share being charged to the Plantations account as part of forest costs.

(k) Government funding

Government funding to the Forestry Commission to meet its current excess of payments over retainable receipts is by means of an annual Grant-in-Aid. The Forestry Enterprise share of this funding is credited in the accounts as follows:—

Plantations account	—	planting and restocking subsidies being the extent to which new investment in planting and restocking is estimated to fall short of the target rate of return.
	—	forest recreation and amenity subsidy being the net cost of the provision of recreational facilities for which commercial objectives cannot be set.
Grant-in-Aid (Note 9)	—	the balance representing the funding of all other activities of the Forestry Enterprise.

Receipts from property sales are not retained but surrendered to the Consolidated Fund. These receipts nevertheless represent a reduction in the call upon Government funding and appropriate adjustments are made to the Capital account.

(l) Notional Interest Charges

Notional interest is charged to the Plantations account and the Trading account based on the average net assets employed during the year. Forestry assets bear interest at 3 per cent and other assets 5 per cent.

As part of the forestry assets are deemed to represent the investments of the superannuation scheme, the provision is credited with part of the notional interest charge. The amount so allocated is calculated as 3 per cent of the average liability of the scheme for the year.

(m) Superannuation scheme

Following usual public service practice, superannuation benefits are met on a Pay As You Go basis. However to give a fair presentation of the liabilities of the Forestry Enterprise at 31 March, a provision for future benefits is made based upon an actuarial valuation. It is not specifically invested but is, in effect, a first charge on the assets employed by the Commission. The valuation is carried out by the Government Actuary at the end of each review period. During the review period the provision is increased by (i) notional employers' contribution based on funding rates set by the Treasury; (ii) notional interest charges as noted above; (iii) a revaluation adjustment based on the general price index used to update the underlying assets and (iv) contributions received from employees. Benefits paid in the year are charged against the provision.

2. OTHER TANGIBLE FIXED ASSETS

<i>(a)</i>	Land and Buildings £ million	Machinery, Plant and Equipment £ million	Total £ million
Valuation:			
At 1 April 1986 ...	74.6	55.1	129.7
Additions ...	3.5	6.7	10.2
Disposals and transfers	(3.7)	(7.1)	(10.8)
Surplus on revaluation	0.3	0.2	0.5
	<hr/>	<hr/>	<hr/>
At 31 March 1987	74.7	54.9	129.6
	<hr/>	<hr/>	<hr/>
Depreciation:			
At 1 April 1986 ...	—	33.6	33.6
Provided during year	1.4	5.5	6.9
Disposals and transfers	—	(6.2)	(6.2)
Surplus on revaluation	(1.4)	(0.3)	(1.7)
	<hr/>	<hr/>	<hr/>
At 31 March 1987	—	32.6	32.6
	<hr/>	<hr/>	<hr/>
Net book value:			
At 31 March 1987	74.7	22.3	97.0
At 31 March 1986	74.6	21.5	96.1

(b) Analysis of Land and Buildings

	£ million	<i>Previous Year £ million</i>
Forest estate ...	51.7	50.9
Surplus estate ...	18.8	19.2
Commercial recreation	4.2	4.5
	<hr/>	<hr/>
	74.7	74.6
	<hr/>	<hr/>

(c) All the assets identified above were revalued by professionally qualified staff as at 31 March 1987, on the bases described in Note 1(d), and the calculations substituted in the accounts for the previously indexed figures. The effect of the revaluation is to increase Land and Buildings by £1.7 million and Machinery, Plant and Equipment by £0.5 million.

3. STOCKS

	£ million	<i>Previous Year £ million</i>
Timber ...	7.6	7.0
Plants and seed ...	1.6	1.7
Consumable materials, supplies and livestock	1.7	2.1
	<hr/>	<hr/>
	10.9	10.8
	<hr/>	<hr/>

4. DEBTORS

	£ million	<i>Previous Year £ million</i>
Trade debtors	12.8	11.5
Other debtors	1.6	1.5
	<hr/>	<hr/>
	14.4	13.0
	<hr/>	<hr/>

Other debtors include amounts falling due after more than one year of £1.2 million (£1.2 million at 31 March 1986)

Notes to the Accounts (continued)

5. CASH AT BANKS AND IN HAND

	£ million	<i>Previous Year £ million</i>
Balance of Forestry Fund with Paymaster General	5.3	7.1
Cash at commercial banks and in hand ...	0.2	0.3
	<hr/> 5.5	<hr/> 7.4

6. CREDITORS: amounts falling due within one year

	£ million	<i>Previous Year £ million</i>
Payments received on account ...	0.6	0.3
Trade creditors	1.6	2.3
Other creditors including taxation and social security costs	2.0	2.5
Consolidated Fund surrender		
Balance of proceeds from disposal of properties and plantations in 1986-87 ...	3.0	4.7
Excess cash balance	1.3	1.5
	<hr/> 4.3	<hr/> 6.2
	<hr/> 8.5	<hr/> 11.3

7. PROVISION FOR SUPERANNUATION

	£ million	<i>Previous Year £ million</i>
Balance at 1 April 1986	217.5	200.8
Revaluation to current prices (Note 10)	7.8	12.2
	<hr/> 225.3	<hr/> 213.0
Contributions received from staff	1.0	1.0
Notional employers' contribution	9.7	10.4
Notional interest charge (Note 12)	6.6	6.2
	<hr/> 242.6	<hr/> 230.6
Payments made during the year	13.5	13.1
	<hr/> 229.1	<hr/> 217.5

Legislation relating to the superannuation of the Forestry Commissioners and Commission staff is to be found in Schedule 1 Part II of the Forestry Act 1967 as amended by the Superannuation Act 1972. The superannuation benefits and contributions payable are identical to those of the Principal Civil Service Pension Scheme except that such benefits are paid out of the Forestry Fund and not the Civil Service Superannuation Vote.

The provision was revalued by the Government Actuary at 31 March 1987 and details of the revaluation and appropriate adjustments are shown in Special Note 1 to these accounts.

Notes to the Accounts (continued)

8. CAPITAL

	£ million	<i>Previous Year £ million</i>
Balance at 1 April 1986	1,104.9	1,060.4
Addition of Grant-in-Aid to Capital (Note 9)	19.2	23.9
Notional interest charge (Note 12) ...	43.2	39.3
	1,167.3	1,123.6
Less: Amounts payable to the Consolidated Fund		
Proceeds from disposals of properties and plantations	14.5	17.2
Excess cash balance	1.3	1.5
	15.8	18.7
Balance at 31 March 1987	1,151.5	1,104.9

9. GRANT-IN-AID

	£ million	<i>Previous Year £ million</i>
Grant-in-Aid transferred into the Forestry Fund	52.5	52.9
Less: Appropriated for the Forestry Authority	18.2	16.5
	34.3	36.4
Grant-in-Aid for the Forestry Enterprise	34.3	36.4
Less: Plantations account subsidies		
Planting and restocking	8.5	6.7
Forest recreation and amenity	6.6	5.8
	15.1	12.5
Addition of Grant-in-Aid to Capital	19.2	23.9

See Note 20 for detailed analysis of Planting and Restocking and Forest Recreation and Amenity subsidies by Conservancy.

10. REVALUATION RESERVE

	£ million	<i>Previous Year £ million</i>
Balance at 1 April 1986	231.2	158.6
Revaluation surplus in year		
Plantations	53.6	80.7
Other tangible assets	2.2	4.1
	55.8	84.8
	287.0	243.4
Adjustment arising from resurvey and reclassification of properties ...	4.1	--
	291.1	243.4
Less: Allocated to Provision for Superannuation (Note 7)	7.8	12.2
	283.3	231.2

11. PLANTATIONS ACCOUNT VARIANCE

	Establishment and Maintenance Variance £ million	Harvesting and Marketing Variance £ million	Total Variances £ million	Previous Year £ million
Income	0.4	11.9	12.3	8.6
Surplus on sale of properties and plantations	1.3	—	1.3	1.6
	1.7	11.9	13.6	10.2
Expenditure:				
Forest costs	4.3	8.4	12.7	9.7
Administrative expenses	2.6	0.3	2.9	2.8
	6.9	8.7	15.6	12.5
Net variances — favourable	8.6	20.6	29.2	22.7

Analysis and explanation of Establishment and Maintenance variance — £8.6 million

	Notes	Standard £ million	Actual £ million	Favourable Variance £ million	Previous Year £ million
Income					
Sundry income	(a)	0.6	1.0	0.4	0.9
Surplus on sale of properties and plantations	(b)	—	1.3	1.3	1.6
		0.6	2.3	1.7	2.5
Expenditure					
Land planted	(c)	2.6	2.2	0.4	0.3
New plantations		3.8	3.8	—	0.9
Restocked plantations		3.8	3.8	—	0.1
Maintenance	(d)	5.7	4.3	1.4	1.1
Lease rents, supplies and miscellaneous		1.0	0.6	0.4	0.3
Road construction		3.6	3.9	(0.3)	0.1
Road maintenance		2.7	2.4	0.3	0.3
Labour oncost	(e)	11.3	9.2	2.1	0.9
Research		4.8	4.8	—	0.2
		39.3	35.0	4.3	4.2
Less: Book value of disposals and reclassifications		4.7	4.7	—	—
Forest costs		34.6	30.3	4.3	4.2
Administrative expenses	(f)	14.4	11.8	2.6	2.4
		49.0	42.1	6.9	6.6
Net expenditure		48.4	39.8	—	—
Favourable Variance		—	—	8.6	9.1

Notes to the Accounts (continued)

- (a) Increased venison income over standard together with surplus realised on sale of seed.
- (b) This variance represents the excess over book value and costs on the disposal of £9.7 million forest estate properties and plantations.
- (c) Represents the difference between the lower value of land in the plantable reserve and the standard allowed for in the plantations valuation, mainly in North and Mid Scotland.
- (d) Savings were achieved by continuing economies in fence maintenance and wildlife protection. Fire protection expenditure was below average because of cool damp weather during the fire danger season.
- (e) Consequential variance from the net reductions in direct costs of Establishment and Maintenance against standards set.
- (f) The favourable variance is due to a combination of staff costs in the quinquennium being held below the general rate of inflation and to savings stemming from a Management Structure Review with a move to a 3-tier structure and amalgamation of Conservancies.

Analysis and explanation of Harvesting and Marketing variance — £20.6 million

	Notes	Standard £ million	Actual £ million	Favourable Variance £ million	Previous Year £ million
Income	(a)	52.9	64.8	11.9	7.7
Expenditure					
Direct costs		25.6	20.7	4.9	3.1
Labour oncost		9.5	6.0	3.5	2.4
Forest costs	(b)	35.1	26.7	8.4	5.5
Administrative expenses		12.0	11.7	0.3	0.4
		47.1	38.4	8.7	5.9
Net income		5.8	26.4	—	—
Favourable variance		—	—	20.6	13.6

- (a) Income per cubic metre increased by 7 per cent over the previous year which represents a rise of approximately 4 per cent in real terms. Increased domestic consumption of paper, sawn timber and wood based panels, allied with increases in domestic production capacity, created sustained demand for round timber throughout the year.
- (b) Unit costs per cubic metre for expenditure on Commission harvesting have decreased substantially during the quinquennium. Of the total favourable variance of £8.7 million, £8.1 million represents savings from improvements in efficiency above those which were foreseen when the standards were set. The remaining £0.6 million is the result of an increase in the average tree size harvested since the beginning of the quinquennium.

Commentary on the Plantation variances over the whole quinquennium is given in Special Note 2 to these accounts.

12. NOTIONAL INTEREST CHARGES

Notional interest charges have been allocated as follows:—

	£ million	Previous Year £ million
Plantations account ...	48.5	44.2
Trading account ...	1.3	1.2
Sale of properties (Note 13)	—	0.1
	49.8	45.5
Attributable to:		
Capital (Note 8)	43.2	39.3
Provision for Superannuation (Notes 1 (m) and 7)	6.6	6.2
	49.8	45.5

13. SURPLUS ON SALE OF PROPERTIES

	Plantations and Forest Estate Properties £ million	Other Properties £ million	Total £ million	<i>Previous Year £ million</i>
Proceeds	9.7	5.0	14.7	17.0
Less: Book value	7.0	3.1	10.1	11.8
	2.7	1.9	4.6	5.2
Less: Disposal costs	0.5	0.2	0.7	0.7
	2.2	1.7	3.9	4.5
Less: Attributable administrative expenses	0.9	0.5	1.4	1.4
Surplus	1.3	1.2	2.5	3.1

Total proceeds from sales and exchanges of land, buildings and plantations amount to £14.7 million a decrease of £2.3 million over the previous year. The surplus on all sales amounts to £2.5 million (£3.1 million 1985-86) and is apportioned between plantations and associated forest estate assets and land and buildings which are surplus to requirements with the respective balances being taken to the Plantations Account and Trading Account.

14. TRADING ACCOUNT SURPLUS FOR YEAR

	<i>Notes</i>	Income £ million	Surplus/ (Deficit) for year £ million	<i>Income £ million</i>	<i>Surplus for year £ million</i>
Cabins and campsites	<i>(a)</i>	2.0	—	1.9	—
Shooting and fishing		0.6	0.1	0.5	0.1
Surplus estate	<i>(b)</i>	1.2	(0.5)	1.2	—
Agency		2.4	0.1	2.4	0.2
Miscellaneous	<i>(c)</i>	0.1	0.1	0.1	0.1
		6.3	(0.2)	6.1	0.4

The entries above represent the trading results after inclusion, where appropriate, of a notional interest charge of 5 per cent, being the real return expected from public sector trading bodies.

- (a) The real rate of return achieved on capital invested in cabins and campsites was 5.4 per cent against 5.7 per cent in the previous year. Total expenditure increased at a slightly higher rate than income due to the increased cost of repair, maintenance and refurbishing of cabins necessary to maintain standards in an increasingly competitive market.
- (b) The Surplus Estate comprises those properties which are not required for the Forestry Enterprise and which will be sold as quickly as security of tenure, interest in purchase by tenants and vacant possession allow. The properties concerned are relatively expensive to maintain because of their type, age and remoteness and, in the case of houses, income is limited to fair rents. The operational deficit after charging interest of 5 per cent is £1.7 million (£1.5 million in 1985-86) which is reduced to £0.5 million when the surplus of £1.2 million (£1.5 million 1985-86) on sales during the year is added back.
- (c) The miscellaneous entry represents the income received from the Severn Trent Water Authority in respect of the Commission's equal share in the surplus on the joint management scheme at Lake Vyrnwy in Wales.

Commentary on the quinquennial performance is provided in Special Note 2 to these accounts.

Notes to the Accounts (continued)

15. ADMINISTRATIVE EXPENSES

	£ million	<i>Previous Year £ million</i>
Salaries and national insurance	21.0	19.4
Travelling, subsistence and staff transfer expenses ...	4.5	4.7
Provision for superannuation	4.3	4.3
Accommodation and estate expenses	2.3	1.8
Office expenses	1.7	1.6
Other net expenses (includes Auditors remuneration of £69,150)	4.9	4.3
	<hr/>	<hr/>
	38.7	36.1
Less: charged to Forestry Authority	9.4	8.4
	<hr/>	<hr/>
	29.3	27.7
Allocated to:		
Plantations account:		
Establishment and maintenance	11.8	11.4
Harvesting and marketing	11.7	11.1
Forest recreation and amenity	2.5	2.1
Trading account	2.0	1.7
Sale of properties (Note 13)	1.3	1.4
	<hr/>	<hr/>
	29.3	27.7
The total administrative expenses of £38.7 million (£36.1 million in 1985-86) were incurred as follows:—		
Forest Districts ...	17.7	16.6
Conservancy Offices	8.0	7.3
Headquarters ...	11.9	11.5
Forest Estate ...	1.1	0.7
	<hr/>	<hr/>
	38.7	36.1

The costs of non-industrial staff employed on Research are not included in the above figures but form part of the net Research expenditure in the Forestry Authority Services Statement of Expenditure with a subsequent allocation of 55 per cent to the Plantations account.

16. STAFF COSTS AND NUMBERS

Many of the Commission's staff divide their time between Forestry Enterprise and Forestry Authority duties and in view of this it is considered more appropriate to provide the statutory information on staff costs and numbers for the Commission as a whole although an approximation is given of the costs relative to the Enterprise.

(a) Total staff costs for the Forestry Enterprise and Forestry Authority comprise:

	£ million	<i>Previous Year £ million</i>
Salaries	22.0	20.4
Wages	26.6	26.5
Social security costs	3.3	3.3
Superannuation costs	9.7	10.4
	<hr/>	<hr/>
	61.6	60.6
Travel and subsistence	3.7	3.6
	<hr/>	<hr/>
	65.3	64.2

Approximately 84 per cent (previous year 85 per cent) of the total relates to Forestry Enterprise operations.

Notes to the Accounts (continued)

(b) The average number of employees during the year was made up as follows:—

	Number	<i>Previous Year Number</i>
Industrial ...	3743	3928
Non-Industrial	2151	2139
	<hr/> 5894 <hr/>	<hr/> 6067 <hr/>

(c) Included in staff costs at (a) above is the remuneration of the Commissioners which comprises (excluding pension contributions):

	£ thousand	<i>Previous Year £ thousand</i>
Chairman	23	19
Highest paid Commissioner	38	39
Other Commissioners	122	111
	<hr/> 183 <hr/>	<hr/> 169 <hr/>
Total emoluments of Commissioners		
Travel and subsistence of Commissioners	39	34
	<hr/> 39 <hr/>	<hr/> 34 <hr/>

The emoluments of the other Commissioners fell within the following ranges:—

	Number	<i>Previous Year Number</i>
£nil to £5,000	6	6
£30,001 to £35,000	3	3

The Commissioners' remuneration is in accordance with Civil Service pay rates.

17. HIRE OF PLANT AND MACHINERY

Included in expenditure in the accounts is the sum of £925,000 for the hire of plant and machinery.

18. CAPITAL COMMITMENTS

Future capital expenditure on Other Tangible Fixed Assets in 1987-88 authorised by the Commission amounts to £10.9 million (£11.3 million for 1986-87).

19. CONTINGENT LIABILITIES

Contingent liabilities exist at 31 March 1987 for damages caused by the Commission to other persons' property and for compensation for personal injury to Commission employees amounting to an estimated sum of £0.4 million (£0.6 million at 31 March 1986).

20. PLANTING, RESTOCKING AND FOREST RECREATION AND AMENITY SUBSIDIES

(a) Details

	Planting			Restocking			Forest Recreation and Amenity	Total Subsidies
	Area Planted (hectares)	Subsidy per hectare	Subsidy	Area Planted (hectares)	Subsidy per hectare	Subsidy		
ENGLAND		£	£000		£	£000	£000	£000
<i>Conservancy</i>								
North	98	511	50	1,199	878	1,053	973	2,076
East	16	584	9	926	1,155	1,070	1,745	2,824
West	24	1,893	46	659	1,078	710	863	1,619
	138	760	105	2,784	1,018	2,833	3,581	6,519
WALES								
<i>Conservancy</i>	138	1,094	151	1,935	1,119	2,165	1,150	3,466
SCOTLAND								
<i>Conservancy</i>								
North	2,367	892	2,112	1,188	315	375	588	3,075
Mid	1,660	331	550	1,180	33	39	656	1,245
South	1,039	60	62	951	73	69	661	792
	5,066	538	2,724	3,319	145	483	1,905	5,112
GREAT BRITAIN	5,342	558	2,980	8,038	682	5,481	6,636	15,097

(b) Planting and Restocking subsidies represent the capitalised extent to which new or reinvestment will not earn the target rate of return of 3 per cent and they are brought into the accounts to maintain the Plantation valuation at a level which will earn the target rate. The subsidies are determined from individual models created in each Conservancy for planned investment in the 1982-87 quinquennium with the expected future expenditure and income being discounted at 3 per cent and the net sum expressed as the subsidy. The individual subsidies are weighted to provide the Conservancy averages shown in the table above.

(c) The Forest recreation and amenity subsidy represents the net cost of the provision of recreational facilities for the public such as visitor centres, forest walks, nature trails and the conservation of wildlife and small scale amenity planting from which no commercial rate of return can be expected, together with motor sports and other specialist activities.

21. FORESTRY SUBSIDY

From 1 April 1982 the Forestry Subsidy, which represents the opportunity cost of investment in forestry, is presented as the capitalised sum on new investment, similar to the planting and restocking subsidies, and is assessed as the difference between the net present values of income and expenditure discounted on the one hand at the target rate of 3 per cent and on the other at the public sector trading rate, which is currently 5 per cent. Details of the calculations are set out below.

	£ million
Planting and restocking subsidies to achieve the public sector trading rate of 5 per cent	20.8
Planting and restocking subsidies to achieve the target rate of return of 3 per cent	8.5
Forestry subsidy on new investment in 1986-87	<u>12.3</u>

FORESTRY ENTERPRISE SPECIAL NOTES TO THE ACCOUNTS

The purpose of these Special Notes is to:—

- (a) set out, and analyse, the results of the revaluation of plantations, other assets and the staff superannuation liability at 31 March 1987, which provides the starting level of capital to be serviced for the next review period which will cover three years instead of five years as in the past. (Special Note 1 Revaluation of Assets and Liabilities);
- (b) use the revaluations, in conjunction with the annual accounts, to assess the rates of return, with and without the benefit of subsidies, that are expected to be achieved over the whole rotation since the capital reconstruction in 1972 as well as from the start of the review period in 1982. (Special Note 2 Measurement of Performance);
- (c) identify and comment on the cumulative results for the quinquennium for the non-plantation trading activities (Special Note 2 Measurement of Performance);
- (d) state and comment on the level of subsidies required to achieve the target rate of return on new planting and restocking and also for forest recreation and amenity for the next review period (Special Note 3 Recalculation of Subsidies).

1. REVALUATION OF ASSETS AND LIABILITIES

A revaluation of the Plantations, Other Tangible Fixed Assets, Stock and the staff Superannuation liability was carried out at 31 March 1987.

The methodology used in the valuations was as follows:—

Plantations (Timber, Land and Roads)	— expectation value basis by discounting at 3 per cent the value of the future work and outputs, including the land value at current market prices. Timber revenues are based on current levels for the three years of the review period and for later years on an analysis of standing sale prices achieved over 27 years. Forest costs are based on 1987 levels allowing for increased productivity over the review period. Administrative expenses are also based on 1987 levels and incorporate a charge to the Enterprise of 50 per cent of the current Research expenditure.
Other Land and Buildings	— generally at open market values for existing use, less disposal costs in the case of surplus properties, and current replacement costs in the case of specialist buildings.
Machinery, Plant and Equipment	— at net current replacement cost.
Net Current Assets	— Balance sheet figures but with adjustments to the stock valuation of timber to reflect the cost of production, to nursery stock to include attributable oncost and administrative expenses, and the inclusion of a valuation for petrol, oil and lubricants.
Provision for Superannuation	— revalued by the Government Actuary on the basis of the value of discounted future benefits payable to staff offset by contributions made by employees and by the Commission.

The valuations of Other Land and Buildings, Machinery, Plant and Equipment were substituted in the 1986/87 accounts for the previously indexed figures. The revaluations of Plantations, Net Current Assets and Provision for Superannuation were not included in the 1986/87 accounts but are compared below with the respective Balance Sheet figures at 31 March 1987 with the changes being identified in the 1987/88 accounts as adjustments to Opening Balances.

The revaluations have the effect of decreasing the plantations valuation by £17.0 million and total assets and liabilities by £18.5 million as follows:—

Notes to the Accounts (continued)

	£ million	Balance Sheet 31 March 1987 £ million	Revaluation 31 March 1987 £ million	Change £ million
Assets employed				
Plantations		1628.7	1611.7	-17.0
Other Tangible Fixed Assets		97.0	97.0	—
Net Current Assets ...		22.3	20.8	-1.5
		<u>1748.0</u>	<u>1729.5</u>	<u>-18.5</u>
Source of Funds				
Provision for Superannuation		229.1	246.0	+16.9
Capital (including Revaluation Reserve)	1434.8			
Trading account surplus (£3.2 million) and Plantations variance (£80.9 million) ...	<u>84.1</u>			
		<u>1518.9</u>	<u>1483.5</u>	<u>-35.4</u>
		<u>1748.0</u>	<u>1729.5</u>	<u>-18.5</u>

An assessment of the decrease of £17.0 million in the plantations valuation is provided below.

	£ million (bracketed figures indicate reduction in plantations valuation)
Timber revenues	
Use of a more comprehensive price database, incorporating average prices received over a longer time span, has indicated a lower level in real terms for long-term price assumptions than those used in the 1982 revaluation. This change has led, in turn, to a reappraisal of crop management regimes and decisions to lengthen rotation ages. The overall result is a reduction in future revenue cash flows of	(220)
Forest costs — Silviculture and Roding	
Savings from lower unit costs on roading and silviculture are partially offset by additional maintenance expenditure consequent upon the lengthening of rotations. The net effect is a reduction in future forest costs of	27
Administrative Expenses	
An examination of the level of staff required to administer the existing Estate, taking into account the cost savings achieved in the quinquennium through a management reorganisation review, has led to the conclusion that a reduction can be made in future administrative expenditure cash flows amounting to	188
Charges for use of land, roads and associated assets	
Lengthening of rotations and higher valuations of assets have increased the charges for use of land, roads and other assets serving the plantations by	(12)
	<u>(17)</u>

2. MEASUREMENT OF PERFORMANCE**Plantations**

Actual income realised was higher and expenditure incurred lower than the cash flow targets built into the 1982 valuation by £80.9 million. Adjusted to £('87) these favourable variances total £85.1 million made up as follows:

	£('87) million	
Higher income from wood and other silvicultural operations ...	29.2	A general rise in the prices of imported wood products and higher demand as a result of recent investments in the domestic industry have led to a price increase in real terms of 15 per cent since the standards were set.
Surplus on sale of properties	6.4	The excess over book value and costs on the disposal of £69.6 million £('87) of forest estate properties and plantations.
Savings in forest costs ...	41.1	Improvements in harvesting productivity, coupled with an increase in the average tree size handled, have been better than expected and have led to a reduction in unit costs which at the end of the quinquennium are approximately 24 per cent less in real terms. There have also been savings in silvicultural expenditure, principally on maintenance, due to a combination of more effective methods of tree establishment and wildlife management.
Savings in administrative expenses ...	8.4	Staff costs rose at a rate below the rate of inflation and savings were also achieved by creating a three tier management structure and amalgamating Conservancies.

Revised assessments at the end of the quinquennium about future volumes of work, outputs and costs and prices have however resulted in an overall reduction in the plantations valuation of £17.0 million. The total surplus from 1982 to the end of the rotation is therefore expected to exceed the 3 per cent target by £68.1 million.

Past assessments of the rates of return achievable from the start of the review period to the end of the rotation have not taken into account the changes in future costs and prices built into the plantation revaluation. It is now considered more appropriate to include these changes and also to provide an assessment of the rates of return (with and without the benefit of subsidies) from the capital reconstruction in 1972, as well as from the start of the review period. The calculated rates of return are as follows:—

		After taking credit for subsidies	Before taking credit for subsidies
From 1972 to end of rotation	3.1	2.7
From 1982 to end of rotation	3.1	3.0

The forecast rates of return in the second column reflect that some progress has been made in recouping subsidies claimed since 1972 for new planting and restocking as a result of net improvements in projected future cash flows.

Other Commercial Activities

The overall surplus on the Trading account for the quinquennium amounted to £3.2 million which adjusted to £('87) is equivalent to £3.5 million. Details of the performance on each of the commercial activities are as follows:

Commercial Recreation (Campsites and Cabins)

The total surplus for the five years in £('87) is £0.7 million (£1.9 million before interest) and this represents an annual average real rate of return of 7.9 per cent compared with the target set of 5 per cent. However the rate of return has declined since 1982. While the increase in total expenditure has been held below the general rate of inflation, income has only risen by some 6 per cent in the five years largely because of an increasingly competitive market and the effect of adverse weather on campsite occupancy.

Commercial Recreation (Shooting and Fishing)

There was a surplus of £0.7 million £('87) in the quinquennium from shooting and fishing over the Commission's estate. From 1 April 1987 the income and expenditure on this activity will be merged with the respective Plantation entries in the Operating Account.

Surplus Estate

The property concerned is a mixture of residential and agricultural subjects which are surplus to requirements and which will be sold as quickly as conditions of tenure, interest in purchase by tenants and vacant possession allow. Most of the properties concerned are relatively expensive to maintain because of their type, age and remoteness and in the case of houses income is limited to fair rents. The total operational deficit for the five years in £('87), after charging interest at 5 per cent, is £8.5 million (£3.4 million before interest) but this result is converted into a surplus of £1.0 million after taking credit for the surplus on sale of properties.

The net operational costs of surplus properties will be treated as an administrative expense from 1 April 1987 with the surplus or deficit on sales being treated as plantation income/expenditure in the Operating Account.

Agency

Agency services cover the provision of staff and machinery to carry out tree planting and maintenance along motorway and trunk roads together with occasional work for adjoining land owners and local authorities. There was a small surplus in the quinquennium of £0.5 million in £('87) from the provision of these services.

Notes to the Accounts (continued)

Miscellaneous Activities

Income received from the Severn Trent Water Authority representing an equal share in the surplus on the joint management scheme at Lake Vrynwy totalled £0.6 million in £('87) in the quinquennium.

3. RECALCULATION OF SUBSIDIES

Planting subsidies

These were introduced in 1972 to cover new planting and restocking projected to earn less than the target rate of return and undertaken primarily for social reasons. New levels of subsidy have been calculated for the planned investment in the next three years using the assumptions of future forest costs, administrative expenses and long-term average timber prices incorporated into the plantation revaluation. The Conservancy and Great Britain weighted subsidies per hectare in £('87) with the implied rates of return are set out below:—

Conservancy	New Planting		Restocking	
	Subsidy per hectare £	Implied rate of return %	Subsidy per hectare £	Implied rate of return %
England				
North	430	2.4	773	2.2
East	2,594*	1.0	470	2.5
West	2,238*	0.9	392	2.7
Wales	311	2.6	9	2.9
Scotland				
North	383	2.4	(62)	3.0
Mid	54	2.9	(217)	3.2
South	339	2.3	567	2.2
Great Britain	305	2.5	245	2.7

*Small areas of broadleaved planting.

The bracketed entries identify the capitalised surplus per hectare that is expected to be earned in excess of 3 per cent from investments in the Conservancies concerned. These surpluses are deducted from the subsidies claimed for investments which fall below the target rate of return.

Despite the lower timber price assumptions now adopted there has been a continuing rise in the forecast overall Great Britain rate of return on new investments from about 1¼ per cent in the period 1977-82 to 2¼ per cent for 1982-87 and over 2½ per cent for 1987-1990. This has been largely achieved through the introduction of improved work practices leading to lower expenditure.

The projected rates of return for 1987-90 are affected by the Broadleaves Policy. In the absence of such a policy, the rate of return would increase from 2.5 per cent to 2.8 per cent for new planting and from 2.7 per cent to 3.0 per cent for restocking.

The improvement in the forecast rates of return will reduce the total subsidies required for planting and restocking in the next review period to £9.7 million, compared with a sum of £22.8 million if the 1982-87 subsidy levels still applied. The total subsidy which can be attributed to the loss in revenue from planting broadleaves rather than conifers is approximately £6.1 million.

Forest Recreation and Amenity Subsidy

In real terms annual net expenditure has increased from £4.5 million in 1982-83 to £6.6 million in 1986-87. The total subsidy claimed in £('87) amounts to £27.1 million compared with the £26.7 million forecast at the start of the quinquennium. For the next review period the annual level of subsidy will be set at a ceiling of £7.0 million in real terms.

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL

FORESTRY ENTERPRISE

VALUATION OF PLANTATIONS

1. The Balance Sheet at 31 March 1987, which is the end of the 1982-87 quinquennium, records the value of the Commission's plantations as £1,629 million (at 1982 costs and prices, suitably updated). The plantations were then revalued to provide the opening balance for the next review period, covering the three years 1987-90, with the revised valuation being used in assessments of performance. As explained in the Special Notes to the Accounts, the Commission have revalued the plantations on an expectation value basis using revised assumptions about future expenditures and incomes and discounting these at the target rate of return of 3 per cent. Special Note 1 records that the revaluation has the effect of decreasing the Balance Sheet figure by £17 million to £1,612 million.
2. Determining future revenues depends on assessments of the likely yield from plantations as they mature and the net income from sales. The net income depends in turn on the extent to which timber will be sold standing as against sales of timber felled by the Commission's own workforce or by their contractors. Since 1972 — expressed in broad terms — the average net income from standing sales has generally been higher than from sales of cut timber.
3. In examining the latest revaluation "the National Audit Office" noted that:
 - i The 1982 valuation assessed future revenues on the basis of a mix of the average net receipts from standing and cut timber sales, over the previous 15 years. The latest valuation was calculated on the assumption that all future receipts would equate to those received from standing sales only, over 27 years.
 - ii However, standing sales currently account for only 37 per cent of total sales, and the Commission's target for the foreseeable future is to increase this only slightly to 40 per cent.
 - iii Available data on standing sales are more extensive and detailed than on cut timber sales. Nevertheless this does not in itself appear to provide sufficient grounds for adopting for valuation purposes, a basis which does not reflect current and expected operating practice and which, on NAO calculations, could overstate estimated future incomes on cut timber by some 20 per cent. A difference in revenue of this order applied to the volume of future production assumed by the Commission indicates that the revised valuation shown in Special Note 1 could be overstated by as much as £300 million.
4. This potential over-valuation is however partly offset by a possible under-valuation resulting from the pricing basis adopted. In arriving at the long-term average price used in estimating future revenues, the Commission weighted their analysis towards more recent timber prices in recognition of the progressive maturing of the estate. This has had the effect of magnifying the significance of the period of very low timber prices from 1979 to 1984, thus reducing estimated future revenues and the plantations valuation. These depressed prices will have progressively less effect on future valuations, but the NAO have calculated that the present under-valuation could amount to approximately £200 million.
5. The expectation value basis used in valuing the Commission's plantations necessarily involves difficult and subjective judgements of revenues likely to arise over the next 50 years or more. There is thus a substantial element of inherent uncertainty, and the Commission consider that they have taken a prudent and cautious view of future revenues by basing these on past achievements with a judgement, in particular, that such revenues will equate over the whole rotation to the level of past standing sale surpluses.
6. In my opinion, however, the evidence available to support the Commission's assumptions about changes in the pattern of future revenues is inconclusive; and in conjunction with the potential over and under valuations referred to in paragraphs 3 and 4 above this in my view creates material uncertainty as to the revised value of the Commission's plantation as shown in Special Note 1 to the Accounts. I have qualified my certificate accordingly.

John Bourn
Comptroller and Auditor General
National Audit Office
15 January 1988

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APPENDIX I

Statutory and Other Committees Appointed by the Forestry Commission: Membership at 31 March 1987

National Committees

England

Mr R.T. Bradley (*Chairman*), Mr P.O.R. Bridgeman, Mr I.D. Coutts, Major D.J.C. Davenport, Mr J. Forbes, Mr G.O. Hutchison, Mr W.E. Lane. *Secretary to the Committee*: Miss M. O'Hare. The Committee met in April 1986.

Scotland

Captain W.F.E. Forbes (*Chairman*), Mr R.T. Bradley, Lt-Col A.E. Cameron, Mr J.D. Pollock, Mr W. Wolfe, Captain J.M.A. Yerburch. *Secretary to the Committee*: Mr B.D. Inglis. The Committee met in April 1986.

Wales

Mr C.R. Woosnam (*Chairman*), Mr R.T. Bradley, Mr B. Davies, Mr D. Davies, Mr D.Y.M. Robertson, Mr W.R. Williams. *Secretary to the Committee*: Mr B.P. Easton. The Committee had no meetings during the year.

Regional Advisory Committees

ENGLAND

North Conservancy

Mr P.O.R. Bridgeman (*Chairman*), Mr M.J.M. Bliss, Dr H. Frankland, Professor B. Hackett, Mr T.N. Hammond, Mr W.W. Metcalf, Mr R.E. Shapland, Mr P. Townson, Sir Marcus Worsley. *Secretary to the Committee*: Mr J. McGough. The Committee met in June 1986 and January 1987.

East Conservancy

Mr W.E. Lane (*Chairman*), Major G.K. Agnew, Mr W.H. Darling, Mr D.J. Edwards, Mr J.P.M.H. Evelyn, Mr A.C.S. Jennings, Mr H.W. Mackworth-Praed, Mr P.H. Peck, Mr J.K. Royston. *Secretary to the Committee*: Mr W.O. Wittering. The Committee met in April and September 1986.

West Conservancy

Major D.J.C. Davenport (*Chairman*), Mr C.A. Eade, Mr B. Leathwood, Mr I. Mercer, Mr R.M. Moody, Councillor A.G. Phillips, Mr M. Roper, Mr R.F. Worgan, Mr J.H.B. Workman. *Secretary to the Committee*: Mr R.B. Urquhart. The Committee met in May and October 1986.

SCOTLAND

North Conservancy

Lt-Col A.E. Cameron (*Chairman*), Mr E.J. Brodie, Mr R. Cameron, Mr J. Evans, Mr A.D.M. Farquharson, Mr N. Gordon-Smith, Mr J.P. Grant, Mr W.W. McAskill, Mr H.D. Skinner. *Secretary to the Committee*: Mr K. Roscoe. The Committee met in May and November 1986.

Mid Conservancy

Mr W. Wolfe (*Chairman*), Captain J.N.B. Baillie-Hamilton, Mr D. Brierton, Mr B.S. Brookes, Mr J.D. Hutchison, Mr J. McNaughton, Mr G. Morton, Councillor T. Rae, Mr T. Smith. *Secretary to the Committee*: Mr W.J. Anderson. The Committee met in May and December 1986.

South Conservancy

Captain J.M.A. Yerburch (*Chairman*), Dr R. Aitken, Mr W.S. Brack, Major D. Bridges, Mr D.F. Hewitt, Councillor J.G. Hope, Mr R.A. McClymont, Captain J.G. Milne-Home. *Secretary to the Committee*: Mr W.G. Williamson. The Committee met in May and November 1986.

WALES

Mr T.H. Owen (*Chairman*), Mr J.M. Harrop, Mr R. ap Simon Jones, Mr M.A. McLaggan, Mr S.K. Neale, Councillor D.W.L. Rowlands, Mr J.W. Sutton, Mr P.A. Wilde. *Secretary to the Committee*: Mr B.P. Easton. The Committee met in May and October 1986.

Home Grown Timber Advisory Committee

Mr J.D.W. Janes (*Chairman*)
Mr A.F. Bloomfield
Mr R.E. Boote*
The Hon James Bruce
Mr N.F. Cairncross*
Mr A. Christie-Miller
Mr D.J. Cooper
Mr J.R. Cordiner
Mr J.W. Dodds*
Mr W. Elliot*
The Hon James Galbraith
Mr R.D. Gordon
Mr R.M. Harley

Mr P.L. Herring
Mr J.H. Hose*
Mr D.W.N. Landale
Mr R.W. Mackenzie
Professor A. MacLeary*
Mr R.B. Metcalfe
Mr A.W. Mills*
Mr P.S. Murray
Mr H. Richardson
Captain P.H.W. Studholme
Mr R. Whitaker
Mr H.F. Wilson

*Independent members

Secretary: Mr B.A. Robertson

With the exception of the independent members the membership was drawn from nominations received from the following bodies: Timber Growers United Kingdom, British Timber Merchants' Association (England and Wales), Home Timber Merchants' Association of Scotland, British Coal, Timber Trade Federation, UK and Ireland Particleboard Association, British Paper & Board Industry Federation, Timber Research and Development Association Ltd.

The Committee met in June, September and December 1986 and March 1987. The Annual Report of the Committee is at Appendix II.

Technical Sub-Committee of the Home Grown Timber Advisory Committee

Mr H. Richardson
Mr D.B. Crawford
Colonel P.C. Ormrod
Mr M.T. Rogers
Mr J.R. Maer
Mr M.D. Oxnard
Mr J.A. Kissock
Mr T.S. Smith
Dr G.K. Elliott
Mr A.R. Powell
Mr K.R. McDiarmid
Mr G.B. Little
Mr P.J. Lambert
Mr S.K. Neale

(*Chairman*)

Timber Growers United Kingdom

British Timber Merchants' Association (England and Wales)

Home Timber Merchants' Association of Scotland
Institute of Chartered Foresters
Association of Professional Foresters
Royal Institution of Chartered Surveyors
Association of United Kingdom Wood Pulp Producers
British Coal
Transport and General Workers' Union

Secretary: Mr D.A. Thompson

The Sub-Committee met in April, July and October 1986 and January 1987.

Supply and Demand Sub-Committee of the Home Grown Timber Advisory Committee

Mr N.F. Cairncross
Mr P.J. Warburton-Lee
Mr D.B. Crawford
Mr D.J. Cooper
Mr P.S. Murray
Mr A.F. Bloomfield
Mr J. Goodwin
Mr B.W. Haycox

(*Chairman*)

Timber Growers United Kingdom
British Timber Merchants' Association (England and Wales)
Home Timber Merchants' Association of Scotland
UK and Ireland Particleboard Association
Association of United Kingdom Wood Pulp Producers
British Coal

Secretary: Mr A. Lyon

The Sub-Committee met in May and November 1986.

Advisory Committee on Forest Research

Professor J.P. Cooper (*Chairman*)
Dr J.D. Brazier
Professor P.R. Day
Dr J.P. Dempster

Professor J.M. Hirst
Dr W.E.S. Mutch
Professor L. Roche
Professor T.S. West

Secretary: Mr I. Lumley

The Committee met in October 1986.

Forestry Research Coordination Committee

Mr R.T. Bradley (<i>Chairman</i>)		Forestry Commission
Mr A.J. Grayson		Forestry Commission
Dr T. Hegarty		Agriculture Departments
Mr J.M. Baker		Department of the Environment
Dr J.C. Bowman	}	Natural Environment Research Council
Dr P.B. Tinker		
Professor J.P. Cooper		Forestry Commission Research Advisory Committee
Dr D. Langslow		Nature Conservancy Council
Dr W.E.S. Mutch		Forestry Universities
Professor T. Swinburne		Agricultural and Food Research Council
		<i>Secretary:</i> Mr D.A. Burdekin

The Committee met in June, October and December 1986 and March 1987.

Forestry Training Council

Mr D.A. Mithen (*Chairman*)

Employer Members

Mr H.J. Brewis	}	Timber Growers United Kingdom
Mr N.G. Halsey		
Mr M. Crichton Maitland		
Miss A.B. Sayers		
Mr A.A. Rowan	}	Forestry Commission
Mr D.A. Bardy		
Mr A.G. Phillips		
		Association of Professional Foresters

Employee Members

Mr J.H. Hose	}	Transport and General Workers' Union
Mr A.W. Mills		
Mr S.K. Neale		
Mr T.E. Radford		
		Civil Service Union

Education and Training Members

Mr W.J. Hedley	}	Forestry Education (Scotland)
Miss A. Marrs		
Mr R.M. Boothroyd	}	Forestry Education (England and Wales)
Mr D. Danbury		

Forestry Society etc. Members

Dr J. Hetherington	Institute of Chartered Foresters
Mr J. Brown	Royal Scottish Forestry Society
Mr E.H.M. Harris	Royal Forestry Society of England, Wales and Northern Ireland
Dr P.G. Biddle	Standing Committee for Arboricultural Education

Secretary: Mr D.B. Parsons

The Committee met in May and October 1986. The Annual Report of the Council is at Appendix III.

Forestry Safety Council

Mr J.W.L. Zehetmayr (<i>Chairman</i>)		
Mr N.G. Halsey	}	Timber Growers United Kingdom
Mr K.J. Ramsay		
Mr G. Little		
Mr R. Callander		
Mr J.H. Hose	}	British Timber Merchants' Association (England and Wales)
Mr A.W. Mills		
Mr P.B. Munn		
Vacancy		
Mr C.W. Simmonds		
Mr J.B. Teasdale		Home Timber Merchants' Association of Scotland
		Transport and General Workers' Union
		General, Municipal, Boilermakers and Allied Trades Union
		Forestry Training Council
		Forestry Commission
		Forestry Commission Safety Officer

Secretary: Mr M. Abrahams

The Council met in April and October 1986. The Annual Report of the Council is at Appendix IV. The vacancy on the Council was caused by the death of Mr D.G. Whieldon on 18 November 1986.

APPENDIX II

Home Grown Timber Advisory Committee

Annual Report for the Year Ended 31 March 1987

During the year, the Committee welcomed the new opportunities opened up for the expansion of forestry arising from the Government's statement on Alternative Land Use and the Rural Economy. It also welcomed the announcement by the Secretary of State for Scotland of modifications to the criteria used by the Department of Agriculture and Fisheries for Scotland in considering the release of land for forestry, as foreshadowed in the Committee's last report. Other subjects which were to the forefront of the Committee's deliberations were environmental issues, wood supply and demand, the report of the National Audit Office on its Review of the Forestry Commission's Objectives and Achievements, and the formation of the Forestry Industry Committee of Great Britain.

At its March meeting the Committee considered the Government's statement of 9 February 1987 outlining measures designed to alleviate the problem of agricultural surpluses in the European Community by encouraging alternative uses of farm land. Two of the proposed policy changes related to forestry. The first was the Government's intention to introduce a Farm Woodland Scheme aimed at the planting of 36 000 hectares of woodland on farms over the first three years of the scheme. The second was an increase in the annual target for new planting in the traditional forestry sector from 30 000 hectares to 33 000 hectares — an effective increase of 10 000 hectares per annum over actual planting levels in recent years. The Committee welcomed these initiatives although it had reservations about some of the elements of the Farm Woodland Scheme contained in the consultation document subsequently issued by the Agriculture Departments and the Forestry Commission. In its response to the consultation document, the Committee expressed particular concern about the complexity of the Scheme, the proposed level of payments which were thought to be too low, and the requirement to have set proportions of broadleaved planting.

In June and September, the Committee again discussed environmental issues following the publication by several conservation bodies of reports on forestry, including the Nature Conservancy Council's paper *Nature Conservation and Afforestation in Great Britain*. These reports had stimulated public interest, but also concern over afforestation. The Committee considered that much of the criticism in the reports was inaccurate and overstated, and called for increased liaison between the Commission and the private sector of the forestry industry to counter it and to create a wider awareness of the industry's achievements. In this connection, both the Commission's revised Policy and Procedure Paper No 4 *The Forestry Commission and Conservation* and the Timber Growers UK paper *Afforestation and Nature Conservation Interactions* were commended by the Committee as setting out how to achieve a reasonable balance between the interests of forestry and conservation. The Committee also stressed the need to highlight the complementary benefits of forestry such as rural employment, import saving, downstream investment and employment in the wood-processing industry.

At its meetings in June and December, the Committee considered the Commission's 1985 and 1986 surveys of forest health with particular reference to the possible effects of air pollution. The surveys had concentrated on coniferous trees, but had included beech; a study of ash had also been commenced. The Committee noted that there had been a slight worsening of crown condition in the conifers surveyed, and that this had been attributed to climatic factors and tree pests. However, difficulties remained in distinguishing this damage from that which might be caused by air pollution. The Committee welcomed the open-top chamber experiments being conducted by the Commission to assist in identifying the direct effects of air pollution and the measures taken to bring these experiments to the notice of the public; this would assist in putting into proper perspective the often exaggerated claims made by pressure groups about tree health. The Committee also welcomed the steps agreed by the European Community to harmonise and co-ordinate the assessment of tree health.

The Committee discussed the work of the Commission's Research Division at its March meeting. It was pleased to note the various initiatives on research, including the identification of work needed on farm forestry, the studies being conducted to further wildlife conservation and the work done to control forest pests. It also welcomed the extension of communications between the Commission's Research Division and similar organisations overseas.

The Committee considered the provisions relating to Environmentally Sensitive Areas (ESAs). Concern was expressed that, despite the fact that they applied only to agricultural practices, there would be a presumption against afforestation in ESAs and that there was a possibility that the number of such areas would be increased. The Committee was of the strong view that forestry should not be discriminated against in the ESAs, provided that individual planting proposals were compatible with the special status of the areas; developments would be watched closely by the Committee.

In June, the Committee considered the annual report on timber supply and demand in Britain. It was evident that the timber trade could take up all the wood that the Commission and the private sector could produce, and the Committee expressed concern that supplies might be inadequate to meet the demands of a buoyant processing industry. There was a suggestion that the private sector was not meeting the expectations of industry, but it was agreed that forecasting private sector supply was fraught with difficulty, as availability would depend on wood prices and the individual circumstances of the owner. The Committee agreed to refer this question to its Supply and Demand Sub-Committee for further consideration.

The Committee considered the report of the National Audit Office on the *Review of Forestry Commission Objectives and Achievements* and the evidence presented to the Public Accounts Committee of the House of Commons by representatives of the Commission. The Committee decided to await the opportunity to study the report of the Public Accounts Committee before tendering advice to the Commission on the form of any response considered necessary.

In March the Committee welcomed the establishment of the Forestry Industry Committee of Great Britain (FICGB) to speak for the full range of interests in the private sector of forestry from the nurserymen to the final processors. The FICGB's first initiative had been to produce a critique of the National Audit Office report, and it intended to publish later in 1987 a comprehensive study setting out its perceptions of a long-term strategy for forestry. The HGTAC expressed the hope that there would be a constructive interaction between the two Committees.

The Technical Sub-Committee and the Supply and Demand Sub-Committee made regular reports throughout the year. Among the subjects considered by the Technical Sub-Committee were developments in machinery and systems for harvesting; methods of timber preservation; the use of public roads for forestry traffic; the new EEC Regulations governing drivers' hours; timber shake in oak; diffusion treatments and the formation of the Timber Research Group.

The Supply and Demand Sub-Committee kept the parent Committee well informed on wood supply and demand, and prospects for the coming years, on the basis of information supplied by consumers' and growers' associations. The Sub-Committee expressed concern, however, that generally it had been difficult to obtain information about removals of timber produced by private woodland owners, and a small study group had been set up to consider how the collection of such information could be improved.

The Committee values greatly the advice and assistance given by both Sub-Committees and wishes to record its appreciation of their continuing support.

APPENDIX III

Forestry Training Council

Annual Report for the Year Ended 31 March 1987

Meetings of the main Council and of the Management Committee took place in Edinburgh on 1 May and 30 October 1986; in addition the Grant Award Committee and the Education Sub-Committee met at various times during the year.

During the year Dr J. Hetherington replaced Mr B. Roebuck as the ICF representative and Miss A.B. Sayers replaced Mr K. Hillcoat as the TGUK representative.

Statistics on the quantity of training undertaken were again compiled and are provided in Tables 1 and 2.

TABLE 1

Attendance on Courses for Recognised Craft, Supervisory and Managerial Qualifications During 1985/86 and 1986/87

Courses	Grade and Type	1985/86		1986/87	
		Number of Courses	Number of Students	Number of Courses	Number of Students
City and Guilds Phase I	Craft (Young Workers) Day and Block Release	1	20	—	—
City and Guilds Phase II	Craft (Adult Workers) Block Release ...	2	38	3	56
SCOTVEC Certificate Part I	Craft (Young Workers) Block Release ...	5	36	6	38
SCOTVEC Certificate Part II	Craft (Adult Workers) Block Release	5	28	4	29
Totals for Craft Courses		13	122	13	123
SCOTVEC Diploma	Supervisory 2-year Sandwich	3	54	3	54
City and Guilds Stage 3	Supervisory Block Release	3	34	3	37
SCOTVEC Certificate Part III	Supervisory Block Release	1	3	2	15
BTEC — Year 1	National Diploma	1	24	1	25
BTEC — Year 3	National Diploma	1	24	1	23
National Diploma	Managerial Residential	2	17	2	40
Totals for Supervisory/Management Courses		11	156	12	194

TABLE 2

Attendance on Short Courses for Forest Workers, Supervisors and Managers During 1985/86 and 1986/87

Level	Source of Participants	1985/86	1986/87
		Trainee Course Days	Trainee Course Days
Craft	Private Forestry	6,213	8,089
	Forestry Commission	5,733	5,545
	Totals	11,946	13,634
Supervisory and Managerial	Private Forestry	1,377	2,166
	Forestry Commission	4,213	4,926
	Totals	5,590	7,092

With the publication of the Government White Paper *Working Together, Education and Training* followed by the official recognition of the Council as the Non-Statutory Training Organisation for forestry practice it became necessary to revise the Constitution and Terms of Reference. Draft proposals were placed before the Council at the October meeting and members were asked to forward any amendments they proposed to the Secretary. The proposed amendments received were then collated and a summary of the proposed amendments was forwarded to members for consideration before the meeting of the Council in April 1987.

During the year the Council has taken a co-ordinating role in the production of a 2-year Youth Training Scheme in forestry; it is expected that proposals for the 2-year Scheme will be made to the Manpower Services Commission during July 1987.

The Council intends to introduce a voluntary register of 'FTC Approved Instructors' who are able to provide effective skills training for the industry and whose skills are monitored and updated by the Training Council.

A further project concerns the provision of 'business training' for forestry contractors wishing to improve their skills. An 'open learning' approach is considered to be appropriate as the costs are low and unlike traditional courses there need be no loss of earnings. Again the MSC has been approached for financial help on a 'pump priming' basis.

The Forestry Training Council continued to have a close liaison with the Forestry Safety Council during the year. The Council is appreciative of the help and co-operation received from many people and organisations, the Colleges providing forestry education, the Highlands and Islands Development Board, the Manpower Services Commission, the Forestry Commissioners, the private sector of forestry and assessors to the Council.

Signed for the Forestry Training Council

D.A. Mithen, *Chairman*

D.B. Parsons, *Secretary to the Council*

APPENDIX IV

Forestry Safety Council

Annual Report for the Year Ended 31 March 1987

The Council met on two occasions during the year under its new Chairman Mr J.W.L. Zehetmayr, on 16 April 1986 at Forestry Commission Headquarters in Edinburgh and on 2 October in Nottingham. The Safety Guides Sub-Committee met once on 10 March 1987.

The meeting in October coincided with the Sixth National Forestry Machinery Demonstration held at Clumber Park 1-3 October at which Forestry Industry Safety Guides were on display and members were on hand to deal with enquiries.

No new guides were published during the year, but amendments to five existing guides were agreed.

One of the main items considered by the Council was the results of a Forestry Commission investigation into the safety of Phostoxin tablets used for the control of rabbits. Although the results were favourable, the Council endorsed the Commission's intention to carry out more sensitive sampling and decided to withhold general approval until these results were available. Other Forestry Commission investigations noted with interest concerned the emission of carbon monoxide from chain saws, the level of vibration in used chain saws and the protection of workers dipping plants in Lindane (gamma-HCH) and planting them.

With the passage of time and changes in membership it became apparent that the terms of reference and composition of the Council were due for review. The main point to emerge was the scope of work of the Council. From its inception the view was adopted that 'forestry' covered all work in the forest and excluded transport of timber on public roads and saw-milling, but this definition had not been made public.

In confirming this view the Council was supported by the Forestry Commissioners. The Council recognised that whereas tree climbing which occurs to a limited extent within the forest for pruning, cablecrane rigging and various forms of research is included within those terms, tree surgery which is mainly practiced in parks and gardens is not. The revised terms of reference remain to be confirmed in the light of this decision.

The Council record with deep regret the premature death of Mr Don Whieldon who as a representative of Timber Growers United Kingdom and latterly of the Forestry Training Council had served on the Council for 10 years.

The Council offered its sincere congratulations to its former Chairman Col. David Campbell and founder member Mr John Hose, both of whom received CBEs during the year.

J.W.L. Zehetmayr
Chairman

M. Abrahams
Secretary

APPENDIX V

Capital Tax Relief for Ancient Semi-Natural Woodlands

Announcement made by the Secretary of State for Scotland on 19 June 1986.

The Rt. Hon. Malcolm Rifkind QC MP, Secretary of State for Scotland, made the following announcement in a Written Answer to a Parliamentary Question about capital tax relief for ancient semi-natural woodlands.

“The policy statement on broadleaved woodlands made on Wednesday, 24 July 1985 by my Rt. Hon. Friend the Member for Ayr indicated that the Government would be giving consideration to this matter. The conclusion which has been reached is that ancient semi-natural woodlands which are, or could be, properly included on the Nature Conservancy Council’s Inventory of Ancient Woodland are eligible for consideration for exemption under the existing rules. In order to bring this matter to the attention of woodland owners, it has been decided to include a specific reference to the position in the next revision of the Treasury memorandum *Capital Taxation and the National Heritage*, the official guide on tax reliefs for heritage property. This passage will read as follows:

‘Ancient semi-natural woodlands which are, or could be, properly included on the Natural Conservancy Council’s Inventory of Ancient Woodland will be eligible for consideration for exemption on scientific as well as scenic or historic grounds, but each case will need to be considered on its merits. Other woodlands on ancient woodland sites, including plantations, would not normally be expected to qualify on scientific grounds, but may be accepted if they satisfy the criteria relating to land of outstanding scenic or historic interest.’

In our broadleaves policy statement of Wednesday, 24 July 1985, we said that steps would be taken, in particular, to ensure that the special interest of the ancient semi-natural woodlands is recognised and maintained. I hope that the amplification of the capital taxation provisions that I have given above will provide a positive lead to owners of such woodlands and other woodlands of outstanding interest.”

APPENDIX VI

Review of Forestry Commission Objectives and Achievements

Extract from the Report by the Comptroller and Auditor General*

Summary and Conclusions

1. This Report records the results of an examination by the National Audit Office (NAO) of the Forestry Commission's objectives and achievements. It also reviews the value in national economic terms of current and prospective investment in forestry. The Report incorporates the advice and findings of a firm of consultant economists employed by NAO to review the more detailed economic aspects.
2. The nature and timescale of forestry operations and the general terms in which Commission objectives are set create special difficulties in assessing performance; and the need to have regard to a number of broadly drawn secondary objectives can produce conflicts with and constraints upon the Commission's primary aim of increasing the supply of timber. Overall the NAO examination concluded that the Commission has over many years made every effort to manage the forestry estate productively and efficiently, with impressive physical achievements. Throughout its activities it has operated with due regard to social, recreational and environmental considerations.
3. The special problems associated with evaluating financial and economic returns from forestry, and certain limitations of the expectation value basis of accounting, largely preclude an assessment of the Commission's financial results in a conventional profit and loss manner. With the help of subsidies for non-commercial activities the Commission is able to achieve its financial target of a real rate of return of 3 per cent per annum on the total forestry estate, but this is well below the 5 per cent target rate generally adopted for other public sector trading operations. Moreover, the Commission expects to achieve an average return of only 2.25 per cent on new investment; and for a large part of its current new planting programme which is on the poorest sites the Commission expects a return of only 1.25 per cent. (Note: the Commission does not now normally acquire land on which only low financial returns can be achieved.) Although they were not specifically quantified, any wider non-monetary benefits which might derive from support for the rural economy, from recreation and from environmental considerations did not appear to be of sufficient value to compensate for the low rates of return likely to be achieved from new investment on such poor sites. Additional uncertainty arises from the extended timescale of forestry development, bearing in mind that trees now being planted will not be harvested for 40 or so years.
4. However, a sound financial case appears to exist for forestry investment in better quality land, where this can be made available. And attractive financial returns can be achieved from selective development of commercial recreation facilities within the existing forestry estate. As regards the private forestry sector, where new investment is stimulated by grants and tax incentives, NAO have some doubts about the national economic benefits derived from the support being made available.

Summary of Main Findings and Conclusions**

5. The main findings and conclusions of the NAO review may be summarised as follows:

Objectives (Part 2)

- (a) The operational objectives set by the Commission are consistent with its statutory and policy responsibilities, but they are drawn up in general terms against which it is difficult accurately to quantify achievement and performance (paragraphs 2.3, 2.5).
- (b) The Commission's multiple responsibilities can place unavoidable constraints on achievement of individual objectives; and there are potential conflicts between the primary objective of an enlarged and efficient forestry estate and the secondary objectives of promoting rural employment and recreation and protecting the environment (paragraph 2.4).
- (c) The financial objective of a 3 per cent rate of return is not related to the value of actual funds invested but to the assessed value of assets; and it contrasts with the 5 per cent target rate of return adopted for many other public sector trading operations (paragraphs 2.3, 2.5).
- (d) Overall, the Commission has achieved a reasonable balance in assessing its priorities and in directing its efforts and resources across its different activities (paragraph 2.5).

Physical Achievements (Part 3)

- (e) The forestry estate has increased from 201,000 hectares to some 900,000 hectares since 1945. Production in 1984-85, at almost 3 million cubic metres of timber, was three times that in the mid-1960s, and is expected to reach more than 5 million cubic metres by the end of the century (paragraphs 3.2-3.7).
- (f) On the other hand, the Commission's reserve of plantable land has decreased from 145,000 hectares to 34,000 hectares. About 40 per cent of the present plantable reserve is located in poorer and less suitable land in the North of Scotland (paragraph 3.2).
- (g) The Commission's industrial labour force has fallen from 6,144 in 1972-73 to 4,100 and is expected to fall still further to 3,850 by April 1988. The fall in a period of expanding production is mainly attributable to changes in working practices involving greater and more sophisticated mechanisation aimed at higher productivity, and to a reduced planting programme (paragraphs 3.4 and 3.8).

*Comptroller and Auditor General's Report HC75, Session 1986-1987, HMSO £4.10 net.

**The cross references quoted relate to other parts of the Comptroller and Auditor General's Report.

- (h) Commercial recreational facilities include forest cabins occupied each year for 20,000 visitor weeks, and caravan and campsites used for 1.2 million camper nights each year. Non-commercial facilities such as nature walks and picnic sites are estimated to be attracting 24 million visits a year (paragraphs 3.9, 3.10).
- (i) To protect the environment the Commission consults a wide range of other bodies, provides advice, maintains 344 sites of Special Scientific Interest, and operates a system of felling licences and planting grant approvals (paragraphs 3.11-3.12).

Financial Achievements (Part 3)

- (j) On overall financial performance, calculated each quinquennium using expectation value accounting and based on the target rate of return of 3 per cent, the Commission has achieved rates of 3.1 per cent (1972-77) and 2.6 per cent (1977-82) with a rate of more than 3 per cent expected in the current quinquennium (all figures after allowing for subsidies for non-commercial activities) (paragraphs 3.14-3.19 and 3.26-3.27).
- (k) The assessments of financial performance involve a number of significant assumptions and uncertainties; and the expectation value basis of accounting, whilst an accepted method of valuing a growing crop, has some uncertainties and limitations in measuring performance, and in effect performance would approximate to the target, no matter what target rate was set, so long as the estimates were accurate. However, in the Commission's view the quinquennial review procedures serve the purposes for which they were set up; and no better or more reliable or cost-effective way of taking account of the distant future had been identified (paragraphs 3.23-3.29).
- (l) Complete and detailed information on financial performance is not available within the quinquennium; and as calculations are made on the value of the forestry estate as a whole, information is not available and performance is not analysed for separate Conservancies or individual plantations. Although there are a number of areas where returns are well below the target rate, the Commission regards it as right that its performance should be measured in aggregate over the quinquennium as a whole and not in relation to specific planting areas, since in its view it is the management of the whole estate in the longer term which should be appraised (paragraphs 3.20 and 3.26-3.27).
- (m) In the most favourable planting areas financial returns in excess of 3 per cent, or even 5 per cent, are being achieved in some cases; but to achieve returns at this level more generally, the Commission would need access to better quality land presently used for agriculture. The average return expected on new investment is 2.25 per cent, and in the poorer areas where much of the Commission's plantable reserve is located the expected return on new planting falls to 1.25 per cent or lower (paragraphs 3.27 and 4.39).
- (n) In overall terms, some £2,058 million at 1984-85 prices has been spent on the forestry estate since 1946, but the current value on an expectation basis is £1,452 million (including the value of existing estates before 1946). The difference of £600 million could reflect several factors, including the costs before 1958 of creating a national reserve of timber. The Commission considers the £600 million reflects the cost of securing the benefits arising from the social and non-commercial aspects of forestry which cannot be precisely quantified. Since 1972, when the 3 per cent target was set, the value of the estate has increased by £143 million more than would be represented by a 3 per cent return (paragraph 3.22).
- (o) The nature of the activities concerned, and the lack of specific data, mean that the Commission's financial performance on its social, non-commercial, recreational or environmental activities cannot be directly assessed. The Commission has earned, however, a healthy rate of return on its commercial recreation operations, though there has been no significant net increase in investment in this area since 1978 (paragraphs 3.30-3.31).

Economic Aspects (Part 4)

- (p) The heaviest costs in forestry are incurred in the early years. For existing estates therefore it is generally financially worthwhile to maintain the plantation until it is matured and harvested (paragraph 4.6).
- (q) As regards new investment, calculations using the Commission's planting models indicate a wide spread of rates of return, depending on the overhead and land value assumptions made and the suitability of the land available for planting. Using full labour cost and a zero value for land, returns range from below 1 per cent to over 7 per cent, excluding any economic benefit which might be available from other factors (paragraphs 4.3-4.4 and Appendix 4).
- (r) In its planting models which form the basis for its investment decisions, the Commission assumes that timber prices will remain constant. Although the Commission suggested in discussion that prices might rise in future, thereby providing higher returns, in NAO's view past evidence indicates that any sustained real increase in timber prices is unlikely. The Commission recognises that it would not be prudent to base major investment decisions on any assumption of continuous real price increases over a long period (paragraphs 4.8-4.10).
- (s) On the assumptions used in the last independent economic assessment in 1972, the Commission claims that the economic benefits to rural employment from its new planting programme have the effect of increasing its rate of return by one per cent. But in NAO's view the greater increase in urban unemployment since 1972, particularly when compared with job prospects in areas where both restocking and new planting is taking place, does not now provide support for such a benefit to be attached to the creation of rural employment. Moreover, even assuming that rural employment is more important than urban employment, in NAO's view there was not a strong case for regarding such rural employment as a strong factor in supporting new investment decisions. Falling employment in forestry itself, higher costs per job, the 40-50 year time-scale before most new jobs are created, and the lack of additional downstream job creation benefits reinforce this opinion. The Commission's view is that such doubts over rural job creation do not give sufficient weight to the guaranteed nature of forestry job creation; and it believes that there is a smaller cost differential between forestry costs per job and those in other activities in the areas concerned than NAO analysis suggested (paragraphs 4.15-4.25).
- (t) The existing forestry estate is a valuable recreational asset. The notional capital value for recreational purposes is in excess of £200 million; and if a notional benefit based on this value were allocated to all new investment this would increase the rate of return

by 0.3 to 0.5 per cent. But it is generally not appropriate to attribute additional recreational opportunities as a blanket benefit arising from all new investment in forestry wherever located, although significant financial benefits are available from certain sites. The Commission's view is that, as the forests are used widely, there is generally a benefit which should be taken account of in an economic assessment of planting policy (paragraphs 4.29-4.31).

- (u) The Commission sees the forestry estate as having great amenity value; others question this view in a number of respects. But the environmental effects of forestry are essentially subjective and difficult to quantify and it is not therefore possible meaningfully to estimate any economic benefits or disadvantages arising (paragraphs 4.32-4.33).
- (v) There appear to be no significant economic benefits from new planting arising from balance of payments or strategic considerations. It would seem prudent, however, to maintain an adequate timber reserve to guard against over-dependence on foreign supplies. Based on assumptions made in 1972, the economic value of the reserve would appear to be about £22 million a year for the whole forestry industry (paragraphs 4.34-4.37).
- (w) For a significant proportion of the Commission's planting and restocking programme, it appeared to NAO that on the poorer land currently available the non-monetary benefits are unlikely to be of sufficient value to compensate for the low financial returns likely to be achieved. On better land however there are opportunities for achieving rates of return significantly higher than 5 per cent (paragraphs 4.38-4.39).

Forestry Authority (Part 5)

- (x) In its Forestry Authority role the Commission carries out a wide range of advisory, regulatory and research functions, with substantial benefits to productivity and forest management of both its own estates and those of the private sector (paragraphs 5.1-5.3).

Private Sector (Part 5)

- (y) Grant schemes and tax incentives provide a significant stimulus to private sector investment in forestry, which is currently responsible for planting and restocking at about twice the Commission's rate. In NAO's view it was not clear whether the costs to the Exchequer from the present grant and tax incentives regime were matched by commensurate benefits in national economic terms (paragraphs 5.4-5.13).

APPENDIX VII

New Publications

Reports

66th Annual Report and Accounts of the Forestry Commission 1985-86 (£10.00).

Report on Forest Research 1986 (£7.85).

Bulletin

No. 63 Census of Woodlands and Trees 1979-82, by G.M.L. Locke (£8.50).

Booklet

No. 51 The Use of Herbicides in the Forest, 2nd edition, by J.S.P. Sale, P.M. Tabbush and P.B. Lane (£2.50).

Forest Record

No. 131 The Fox, by H.G. Lloyd and R. Hewson (£2.70).

Research and Development Papers

No. 139 IUFRO *Abies grandis* Provenance Experiments: nursery stage results, edited by A.M. Fletcher (£7.50).

No. 146 Beech Health Study 1985, by D. Lonsdale (£1.85).

No. 147 Forest Health and Air Pollution: 1985 survey, by W.O. Binns, D.B. Redfern, R. Boswell and A.J.A. Betts (£1.50).

No. 148 An Integrated Forest Process Model: its calibration and prediction performance, by K. Rennolls and P. Blackwell (£2.30).

No. 149 Beech Health Study 1986, by D. Lonsdale (£2.30).

No. 150 Forest Health and Air Pollution: 1986 survey, by J.L. Innes, R. Boswell, W.O. Binns and D.B. Redfern (£1.75).

Miscellaneous

Wood as Fuel — a guide to burning wood efficiently, 2nd edition, by G.D. Keighley (20p).
British Forestry (£2.50).

In addition, the following free publications were produced:

Research digest '86.

The recognition of hazardous trees.

Practical work in farm woods (a series of eight free leaflets and a woodland checklist) prepared jointly by the Agricultural Development and Advisory Service and the Forestry Commission:

1. Why manage farm woods?
2. Woodland survey and assessment.
3. Management for wood production.
4. Woodlands and farm resources.
5. Woodland management for wildlife and landscape conservation.
6. Woodland management for sport and recreation.
7. New planting.
8. Woodland operations.

Forestry '86

Forestry Facts and Figures 1985-86

Forestry Facts Series

Sitka Spruce — The Super Tree

EYE: Focus on Forests

APPENDIX VIII

Statistical Tables

Forestry Authority

FORESTRY COMMISSION GRANT SCHEMES POSITION AT 31 MARCH 1987

Table 1

Area in hectares

	England		Wales		Scotland		Great Britain	
	Number	Area	Number	Area	Number	Area	Number	Area
Basis I and II Dedication Schemes	1,841	169,078	445	26,434	963	199,912	3,249	395,424
Basis III Dedication Schemes	304	16,694	87	5,773	438	71,805	829	94,272
Forestry Grant Schemes	4,601	62,848	630	11,254	2,391	191,497	7,622	265,599
Broadleaved Woodland Grant Schemes	2,783	19,013	323	1,209	636	2,721	3,742	22,943

AREA OF PLANTING BY PRIVATE WOODLAND OWNERS FOR WHICH GRANTS
WERE PAID IN THE YEAR ENDED 31 MARCH 1987

Table 2

Hectares

Country	In Forestry Grant Scheme			In Broadleaved Woodland Grant Scheme			In Dedication and *other grant schemes			Total		
	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total
ENGLAND												
Conifer	429	561	990	—	—	—	15	561	576	444	1,122	1,566
Broadleaved	250	493	743	511	686	1,197	14	343	357	775	1,522	2,297
Total	679	1,054	1,733	511	686	1,197	29	904	933	1,219	2,644	3,863
WALES												
Conifer	525	179	704	—	—	—	49	50	99	574	229	803
Broadleaved	61	11	72	72	30	102	1	10	11	134	51	185
Total	586	190	776	72	30	102	50	60	110	708	280	988
SCOTLAND												
Conifer	16,408	686	17,094	—	—	—	373	595	968	16,781	1,281	18,062
Broadleaved	240	77	317	184	152	336	15	37	52	439	266	705
Total	16,648	763	17,411	184	152	336	388	632	1,020	17,220	1,547	18,767
GREAT BRITAIN												
Conifer	17,362	1,426	18,788	—	—	—	437	1,206	1,643	17,799	2,632	20,431
Broadleaved	551	581	1,132	767	868	1,635	30	390	420	1,348	1,839	3,187
Total	17,913	2,007	19,920	767	868	1,635	467	1,596	2,063	19,147	4,471	23,618

Note: It is estimated that the following areas were planted without grant aid:

	<i>New Planting</i>	<i>Restocking</i>
England	140	110
Wales	57	1
Scotland	61	35
Great Britain	<u>258</u>	<u>146</u>

These figures were compiled from a large number of local estimates of small areas of planting.

* Total area in other grant schemes was 15 hectares.

AREA OF PLANTING BY PRIVATE WOODLAND OWNERS FOR WHICH GRANTS WERE PAID IN
THE 10-YEAR PERIOD 1 APRIL 1977 TO 31 MARCH 1987

Table 3

Hectares

Year ended 31 March	England			Wales			Scotland			Great Britain		
	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total
1978	831	1,008	1,839	591	36	627	4,900	933	5,833	6,322	1,977	8,299
1979	702	1,439	2,141	591	90	681	6,656	1,321	7,977	7,949	2,850	10,799
1980	814	1,731	2,545	556	112	668	6,932	1,022	7,954	8,302	2,865	11,167
1981	905	1,930	2,835	561	142	703	6,934	927	7,861	8,400	2,999	11,399
1982	795	1,888	2,683	1,004	223	1,227	10,663	1,339	12,002	12,462	3,450	15,912
1983	1,514	1,994	3,508	911	156	1,067	10,086	968	11,054	12,511	3,118	15,629
1984	1,480	1,935	3,415	1,064	113	1,177	14,129	1,019	15,148	16,673	3,067	19,740
1985	976	1,767	2,743	918	122	1,040	14,135	1,177	15,312	16,029	3,066	19,095
1986	984	2,346	3,330	743	434	1,177	17,292	1,559	18,851	19,019	4,339	23,358
1987	1,219	2,644	3,863	708	280	988	17,220	1,547	18,767	19,147	4,471	23,618

Note: This table does not include planting done without Forestry Commission grants.

**VOLUME OF TIMBER LICENSED FOR FELLING AND THINNING
ON PRIVATE LAND IN THE YEAR ENDED 31 MARCH 1987**

Table 4

Volume in thousands of cubic metres

	England	Wales	Scotland	Great Britain
Conifer	194	29	112	335
Broadleaved	148	7	15	170
Total volume	342	36	127	505
Number of licences issued	1,483	192	422	2,097

Note: Excludes felling and thinning covered by an approved plan of operations under one of the Forestry Commission's grant schemes, for which no licence is required.

**AREA LICENSED FOR CLEAR FELLING ON PRIVATE LAND
IN THE YEAR ENDED 31 MARCH 1987**

Table 5

Hectares

	England	Wales	Scotland	Great Britain
Conditional licences	576	44	366	986
Unconditional licences	176	2	92	270
Total	752	46	458	1,256

Note: Conditional licences require the restocking of the land concerned.

Forestry Enterprise

LAND USE AT 31 MARCH 1987

Table 6

Hectares

	England	Wales	Scotland	Great Britain
Forest Land				
Under plantations	237,767	131,815	519,775	889,357
Other woodland	2,536	1,452	6,333	10,321
To be planted	2,187	1,138	23,433	26,758
Total	242,490	134,405	549,541	926,436
Other Land				
Agricultural and grazing	10,539	4,412	48,666	63,617
Forest workers' holdings	253	121	2,049	2,423
Unplanted and miscellaneous (includes nursery land)	28,749	6,368	128,961	164,078
Total	39,541	10,901	179,676	230,118
Total area	282,031	145,306	729,217	1,156,554

Note: There was a major updating of the Forestry Commission's land records during 1986-87, resulting in some reclassification of land between the various headings within each country, and minor adjustments to overall totals.

NET AREA OF LAND ACQUIRED/DISPOSED OF DURING THE YEAR ENDED 31 MARCH 1987

Table 7

Hectares

	England	Wales	Scotland	Great Britain
Plantations acquired	10	—	47	57
Plantations disposed of	2,321	1,132	2,065	5,518
Planting land acquired	48	66	2,281	2,395
Planting land disposed of	56	3	609	668
Other land acquired	1	2	1,242	1,245
Other land disposed of	409	815	3,546	4,770
Net area of land acquired/disposed of	(2,727)	(1,882)	(2,650)	(7,259)

FOREST LAND DISPOSED OF IN THE YEAR ENDED 31 MARCH 1987

Table 8

Conservancy	Forest Areas (hectares)		Plantable Land (hectares)	Total Area (hectares)	Receipts (£000)	Average £/hectare for Land Under Trees and Plantable Land
	Under Trees	Associated Land				
England						
North	640	40	41	721	912.9	1,341
East	1,216	63	15	1,294	2,646.7	2,150
West	339	23	—	362	589.0	1,737
Total	2,195	126	56	2,377	4,148.6	1,843
Wales	1,109	23	3	1,135	1,575.6	1,417
Scotland						
North	575	54	399	1,028	860.4	883
Mid	577	49	196	822	911.7	1,179
South	780	30	14	824	811.2	1,022
Total	1,932	133	609	2,674	2,583.3	1,017
Great Britain	5,236	282	668	6,186	8,307.5	1,407

PLANTING IN THE YEAR ENDED 31 MARCH 1987

Table 9

Hectares

	New Planting	Restocking	Total
England			
Conifer	92	2,410	2,502
Broadleaved	46	374	420
Total	138	2,784	2,922
Wales			
Conifer	135	1,767	1,902
Broadleaved	3	168	171
Total	138	1,935	2,073
Scotland			
Conifer	4,845	3,107	7,952
Broadleaved	221	212	433
Total	5,066	3,319	8,385
Great Britain			
Conifer	5,072	7,284	12,356
Broadleaved	270	754	1,024
Total	5,342	8,038	13,380

AREA PLANTED ANNUALLY BY THE COMMISSION IN THE 10-YEAR PERIOD 1 APRIL 1977 TO 31 MARCH 1987

Table 10

Hectares

Year ended 31 March	England			Wales			Scotland			Great Britain		
	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total	New Planting	Re-stocking	Total
1978	1,148	1,164	2,312	769	937	1,706	12,206	968	13,174	14,123	3,069	17,192
1979	686	1,424	2,110	572	884	1,456	10,584	1,259	11,843	11,842	3,567	15,409
1980	898	2,168	3,066	797	1,241	2,038	14,135	2,260	16,395	15,830	5,669	21,499
1981	470	1,902	2,372	683	1,116	1,799	10,481	1,996	12,477	11,634	5,014	16,648
1982	558	1,949	2,507	326	1,524	1,850	10,094	2,037	12,131	10,978	5,510	16,488
1983	429	2,027	2,456	436	1,482	1,918	8,021	2,289	10,310	8,886	5,798	14,684
1984	397	2,567	2,964	275	1,539	1,814	7,710	2,647	10,357	8,382	6,753	15,135
1985	167	2,171	2,338	161	1,300	1,461	4,777	2,445	7,222	5,105	5,916	11,021
1986	246	2,156	2,402	49	1,778	1,827	4,038	3,363	7,401	4,333	7,297	11,630
1987	138	2,784	2,922	138	1,935	2,073	5,066	3,319	8,385	5,342	8,038	13,380

AREAS OF PLANTATIONS AND VOLUMES OF TIMBER FELLED
AND THINNED IN THE YEAR ENDED 31 MARCH 1987

Table 11 Area in hectares
Volume in thousands of cubic metres

	Felled		Thinned		Total Volume Felled and Thinned
	Area	Volume	Area	Volume	
England					
North	1,491	414	1,375	61	475
East	782	206	5,668	241	447
West	465	142	2,983	162	304
Total	2,738	762	10,026	464	1,226
Wales	1,592	434	4,595	327	761
Scotland					
North	1,246	371	3,360	185	556
Mid	1,202	357	1,031	49	406
South	1,165	325	1,128	54	379
Total	3,613	1,053	5,519	288	1,341
Great Britain	7,943	2,249	20,140	1,079	3,328

SALES OF TIMBER IN THE YEAR ENDED 31 MARCH 1987

Table 12 Thousand cubic metres

Description	England	Wales	Scotland	Great Britain
Trees sold standing	451	314	466	1,231
Converted*				
Round timber and saw logs	405	240	431	1,076
Telegraph and other selected poles	1	2	5	8
Mining timber	23	14	—	37
Posts and stakes	7	10	3	20
Pulpwood and boardmill material	240	156	345	741
Firewood	20	6	12	38
Miscellaneous	60	3	—	64
Total	756	431	797	1,984

* In addition 5,900 cubic metres were converted and used internally for forest and estate purposes. (England 2,600; Wales 1,200; Scotland 2,100.)

**PROPERTIES MANAGED BY THE COMMISSION
AT 31 MARCH 1987**

Table 13

Number

Type of Property	England	Wales	Scotland	Great Britain
Forest properties				
Foresters' houses	60	39	96	195
Forest workers' houses	334	41	332	707
Forest workers' holdings	21	15	56	92
Miscellaneous*	700	326	563	1,589
Total	1,115	421	1,047	2,583
Other properties				
Farms and other agricultural subjects	437	234	492	1,163
Residential and other lettings	679	57	450	1,186
Other lettings	200	451	598	1,249
Total	1,316	742	1,540	3,598
Sporting lettings	532	154	1,092	1,778

* Miscellaneous covers hostels, bothies, offices, repair workshops and other buildings not normally let.

**PUBLIC RECREATIONAL FACILITIES
AT 31 MARCH 1987**

Table 14

Number

	England	Wales	Scotland	Great Britain
Camping and caravan sites *	23	1	9	33
Picnic places	348	99	168	615
Forest walks and forest nature trails	277	118	216	611
Visitor centres	8	4	8	20
Arboreta	12	4	4	20
Forest drives	4	2	2	8
Forest cabins and holiday houses	107	0	85	192

* In addition to the campsites listed above, the Commission provides:-

- (i) 6 sites leased to the Caravan Club and 3 sites to the Camping and Caravanning Club;
- (ii) 58 sites set aside for youth camping;
- (iii) facilities for caravan rallies.

LAND USE, PLANTING AND TIMBER PRODUCTION BY FOREST DISTRICTS
— ENGLAND

Table 15

Conservancy	Land use at 31 March 1987 (hectares)					During Year 1986-87		
	Total Area of Forest	Under Plantations	Other Woodland	To be Planted	Other Land	Planting (hectares)		Production (000 cu m)
						New Planting	Re-stocking	
NORTH ENGLAND								
Border	12,950	11,414	31	24	1,481	50	120	74
Cheshire	958	899	2	—	57	—	13	6
Durham	5,602	5,248	7	109	238	—	141	37
Kielder	50,363	40,177	—	79	10,107	6	513	174
North Lakes	7,961	5,323	47	6	2,585	19	108	34
North York Moors	22,591	19,554	363	178	2,496	20	162	75
Rothbury	11,330	9,511	33	296	1,490	—	60	13
South Lakes	8,033	7,029	224	36	744	3	72	54
York	5,299	4,217	18	485	579	—	10	8
TOTAL	125,087	103,372	725	1,213	19,777	98	1,199	475
EAST ENGLAND								
Chilterns	3,592	3,342	60	127	63	2	34	9
New	27,159	12,389	683	—	14,087	—	67	39
Northants	7,464	7,279	20	32	133	—	84	17
North Lincs	4,439	4,375	4	—	60	—	19	23
Sherwood	8,757	7,273	31	430	1,023	14	54	49
South Downs	8,611	8,258	164	9	180	—	22	32
Suffolk	4,540	4,471	20	14	35	—	75	34
Thetford	21,641	21,156	129	29	327	—	488	196
Weald	8,027	7,472	45	2	508	—	49	19
West Downs	6,086	5,772	55	6	253	—	34	29
TOTAL	100,316	81,787	1,211	649	16,669	16	926	447
WEST ENGLAND								
Cornwall and North Devon	7,906	7,583	13	30	280	—	120	55
Dean and Three Counties	12,492	11,083	292	2	1,115	—	79	68
Dorset	4,797	4,288	124	1	384	—	92	27
Marches	7,364	7,000	61	100	203	12	169	31
Midlands	5,584	5,446	33	32	73	—	57	29
Ringwood	2,712	2,408	3	—	301	—	—	20
Somerset and South Devon	10,140	9,295	74	144	627	12	107	60
Wiltshire and Avon	5,633	5,505	—	16	112	—	35	14
TOTAL	56,628	52,608	600	325	3,095	24	659	304

Note: There was a major updating of the Forestry Commission's land records during 1986-87, resulting in some reclassification of land between the various headings within each Forest District.

LAND USE, PLANTING AND TIMBER PRODUCTION BY FOREST DISTRICTS
— WALES

Table 16

Conservancy	Land use at 31 March 1987 (hectares)					During Year 1986-87		
	Total Area of Forest	Under Plantations	Other Woodland	To be Planted	Other Land	Planting (hectares)		Production (000 cu m)
						New Planting	Re-stocking	
WALES								
Aberystwyth	12,658	11,448	50	312	848	60	120	49
Afan	10,364	9,501	175	7	681	—	132	41
Brechfa	11,050	10,276	349	9	416	11	215	81
Brecon	7,882	7,169	56	29	628	—	158	49
Corris	7,913	7,462	50	55	346	—	205	51
Dolgellau	11,845	10,589	109	55	1,092	65	24	50
Gwent	9,474	8,953	91	18	412	—	64	43
Llandovery	17,067	16,057	46	207	757	2	123	80
Llandrindod	9,012	8,847	15	5	145	—	154	64
Llanrwst	12,463	10,305	72	32	2,054	—	141	70
Llanwynno	9,492	7,974	57	25	1,436	—	155	20
Newtown	5,592	5,472	26	—	94	—	104	31
Rheola	10,381	8,277	340	368	1,396	—	237	56
Ruthin	10,113	9,485	16	16	596	—	103	76
TOTAL	145,306	131,815	1,452	1,138	10,901	138	1,935	761

Note: There was a major updating of the Forestry Commission's land records during 1986-87, resulting in some reclassification of land between the various headings within each Forest District.

LAND USE, PLANTING AND TIMBER PRODUCTION BY FOREST DISTRICTS
— SCOTLAND

Table 17

Conservancy	Land use at 31 March 1987 (hectares)					During Year 1986-87		
	Total Area of Forest	Under Plantations	Other Woodland	To be Planted	Other Land	Planting (hectares)		Production (000 cu m)
New Planting						Re-stocking		
NORTH SCOTLAND								
Buchan	24,425	21,324	103	99	2,899	31	222	111
Dornoch	56,242	34,203	36	6,016	15,987	1,110	33	12
Easter Ross	30,642	23,602	265	966	5,809	256	36	81
Fort Augustus	39,065	19,665	404	1,133	17,863	103	129	64
Inverness	20,023	16,055	116	727	3,125	90	49	30
Kincardine	14,942	13,866	8	47	1,021	55	114	55
Lochaber	36,649	19,512	663	637	15,837	107	156	43
Moray	7,663	7,165	—	—	498	—	123	54
Mull	15,550	10,525	259	644	4,122	172	21	12
Speyside	17,199	15,291	19	1,204	685	175	76	37
Strontian	20,857	11,539	397	1,701	7,220	77	60	24
Wester Ross	30,907	15,384	168	758	14,597	191	169	33
TOTAL	314,164	208,131	2,438	13,932	89,663	2,367	1,188	556
MID SCOTLAND								
Aberfoyle	33,365	25,686	260	391	7,028	78	239	73
Angus	10,197	8,666	2	196	1,333	120	46	24
Ardgartan	19,350	9,761	495	467	8,627	146	98	30
Cowal	25,810	17,260	527	1,008	7,015	247	176	42
Fife	7,746	7,063	138	53	492	—	128	29
Kintyre	34,598	26,040	709	1,722	6,127	353	231	83
Loch Awe	34,042	25,100	563	427	7,952	161	150	56
Lorne	28,666	18,164	606	570	9,326	190	90	32
Tay	7,653	6,783	147	311	412	135	22	34
Tummel	21,139	14,086	170	1,045	5,838	230	—	3
TOTAL	222,566	158,609	3,617	6,190	54,150	1,660	1,180	406
SOUTH SCOTLAND								
Ayrshire	41,639	28,765	162	1,000	11,712	484	55	27
Borders	17,755	16,210	—	—	1,545	—	118	64
Castle Douglas	33,280	27,420	11	—	5,849	80	317	97
Lockerbie	17,578	15,775	19	421	1,363	—	265	53
Lothian & Tweed	14,770	14,139	13	19	599	—	65	31
Newton Stewart	49,388	34,733	21	1,319	13,315	266	99	50
Nithsdale	18,077	15,993	52	552	1,480	209	32	57
TOTAL	192,487	153,035	278	3,311	35,863	1,039	951	379

Note: There was a major updating of the Forestry Commission's land records during 1986-87, resulting in some reclassification of land between the various headings within each Forest District.

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