



FORESTRY

Forestry Annual Report 1983-84

PRESENTED TO PARLIAMENT BY COMMAND

September, 1984.

**The Honourable W. H. Glasson, M.L.A.,
Minister for Lands, Forestry and Police,
BRISBANE, Q 4000.**

Dear Mr Glasson,

I am pleased to submit to you the Annual Report of the Department of Forestry for the 1983-84 financial year.

Yours faithfully,

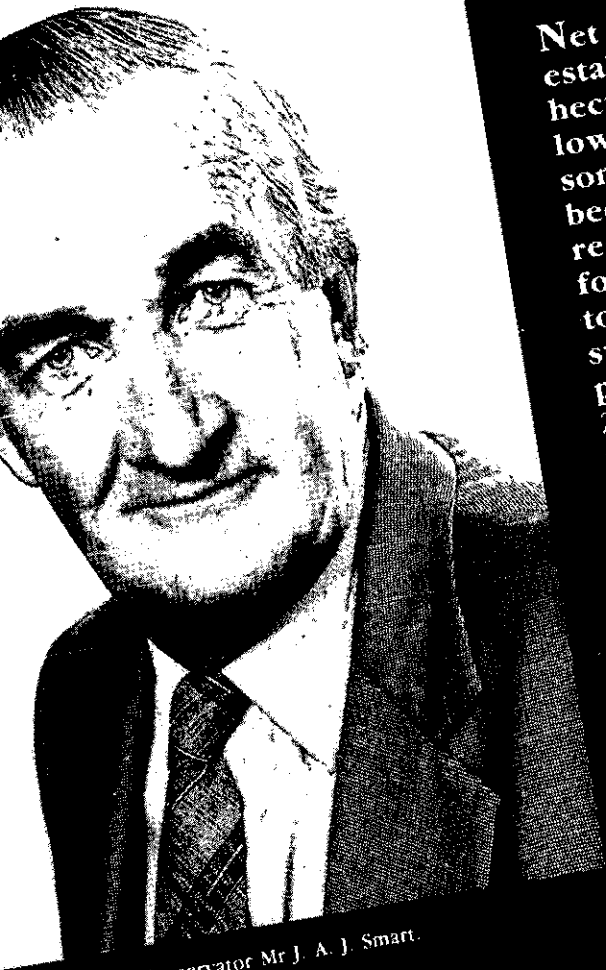
J. A. J. Smart,

Conservator of Forests.

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Front cover: WoodWorks, the Forestry and Timber Museum,
Gympie, at dawn.



Conservator Mr J. A. J. Smart.

Following the comprehensive organizational review undertaken recently, the Department began late in 1983 to operate under its newly adopted structure reported last year. The immediate aim was to achieve more effective planning and control of departmental activities as well as greater operational flexibility to cope with changing circumstances and more equitable sharing of workloads. Initial results are most encouraging.

In the second half of the year, an improving national economic situation was reflected in a higher level of activity in the building sector with a resulting welcome increase in demand for timber. On a whole-year basis, sales of milling timber by the Department this year improved 17 per cent on those for 1982-83, but this improvement was achieved almost wholly in the latter part of the year. By the end of the year

demand again appeared to be leveling out in some areas, however, and the position is being kept under review.

Net area of softwood plantation establishment this year was 4 048 hectares which, unfortunately, is the lowest figure able to be achieved for some years. This reduced programme has been necessitated by a decline in value of funds available for reforestation work. However, the total softwood plantation estate now stands at about 145 000 hectares from 2000 of at least 200 000 hectares to meet future needs.

In response to changes in the economy and market demand within the plantation timber industry, the Department is adjusting its plantation management practices to lessen future product sizes overall. This has involved areas of wider initial plant spacings in precommercial thinning to about 1 hectare of young plantation.

Usage rates for State Forest reserves areas continued to increase and are further 12.5 per cent this year. Many of the presently available periods are operating to full capacity and are restricted. Funding limitations preclude the building of any new Forest Parks or major new facilities to cater for this growing demand.

Action has been put in hand to review Queensland's forest management and policies in a consolidated document to facilitate reference to the means of widening the general understanding of forest management objectives and practices. Government endorsement of this document, if publicly available and subject to review it periodically in the light of experience and of any advice received on it.

KEY ISSUES

Queensland has long been a net importer of forest products with the current import bill estimated to be more than \$100 million a year. Thus the State is using its overseas funds supporting forest-based industries in other States and overseas in a major way for this purpose and will continue to do so at least in the short and medium term.

- In terms of local supplies, forest resources available on private lands have reduced significantly in the last decade and seem certain to diminish further. If current population trends are maintained, the gap between local supply and demand will widen, and the State will be forced to further increase its imports.
- This import bill is unnecessarily large to spend on commodities which could be grown efficiently within the State, and it represents a money resource which would undoubtedly be better spent on internal development.
- The Department's reforestation programme has been aimed at ultimately achieving net self-sufficiency. As predicted, demands for wood have increased along with changing population and usage trends. A position of net self-sufficiency is unlikely to be achieved unless full native forest production is maintained and the rate of plantation establishment can be increased. Incentives also need to be provided to land owners to manage native forest areas for timber production to establish plantations of suitable species and to combine agricultural and forestry production on selected areas.
- Wood production objectives are, to a large extent, compatible with rural land-owner objectives for the rehabilitation of degraded lands and for soil conservation generally. An opportunity exists for agricultural interests to diversify into agroforestry both in the interests of better land management and for economic reasons.

- Establishment of 4 048 hectares of new Crown plantations in 1983-84 is the lowest level achieved by the Department in 16 years. This reflects the progressive decline in the availability of funds for reforestation in recent years and is an unfortunate position in the light of above mentioned supply/demand projections and the anticipated deficit in supply.
- In spite of increasing public demand, no further new forest recreation areas can be developed at present due to restriction of funds able to be made available for both development and subsequent maintenance of facilities. Construction work on recreation facilities must currently be confined to limited redevelopment of existing facilities.
- Market difficulties which exist for hoop pine pulpwood and an unavailable delay in establishment of further industries utilizing exotic pine pulpwood, have necessitated the implementation of extensive pre-commercial thinning programmes in younger plantations to maintain their sawlog production capability. Use of C.E.P. and other special funding has been maximized for this purpose.
- A major concern for the forest and forest-based industries is the continuing attrition of the forest estate resource through conversion of commercial forest to other land uses including urban and industrial development, sugar growing, grazing, roads, power lines and other public utility purposes. There are, in addition to these factors, continuing unrealistic demands from a strident conservation lobby for the further exclusion of wood production from large areas of native forest types.

The Premier and Treasurer, the Honourable Sir Joh Bjelke-Petersen, K.C.M.G., M.L.A., inspects newsprint produced in Finland from Queensland-grown pine logs with Queensland Newspapers Pty. Ltd. Production Director, Mr Ian Kerr.





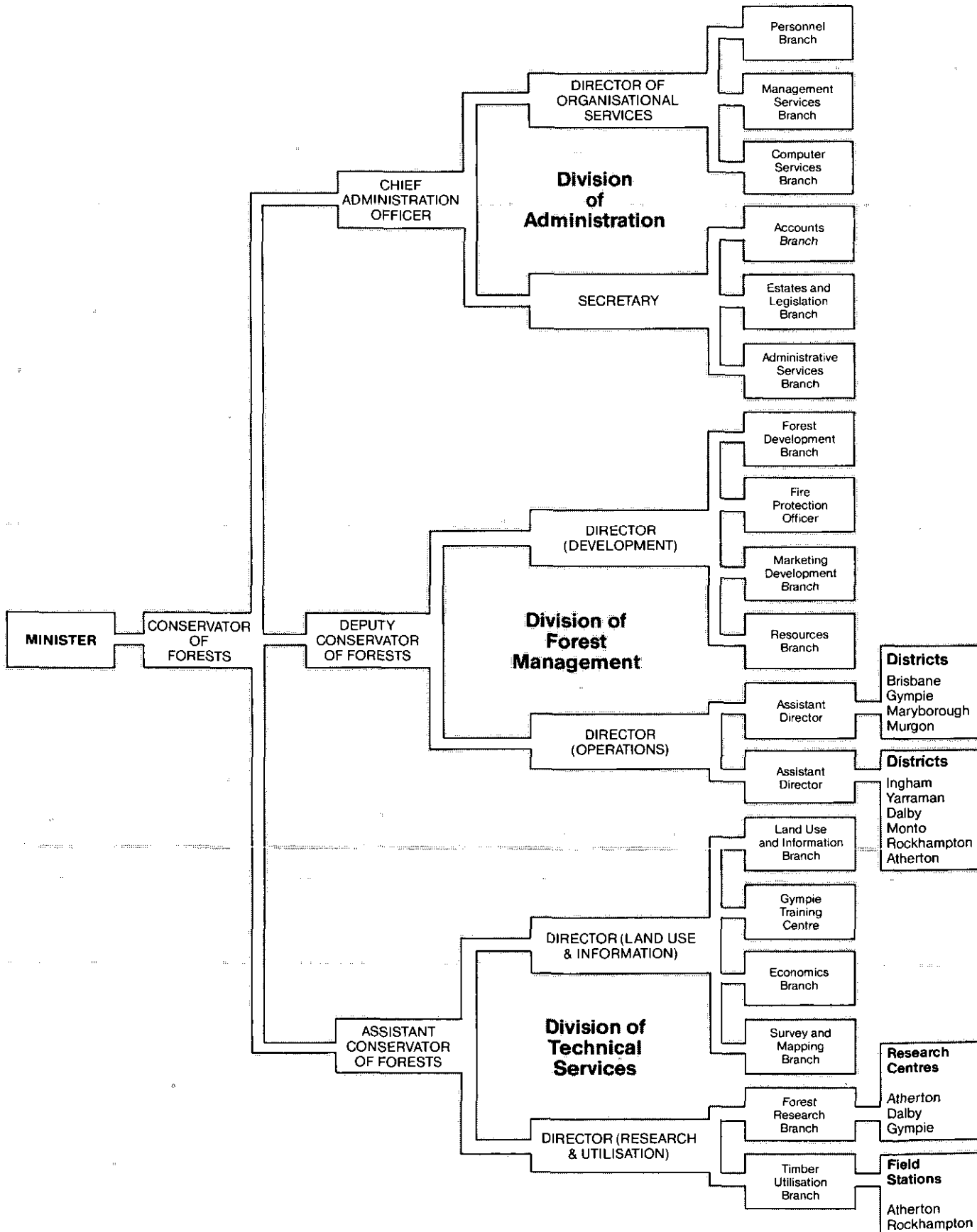
FIVE YEAR SUMMARY

| | 1983-84 | 1982-83 | 1981-82 | 1980-81 | 1979-80 |
|--|---------|---------|---------|---------|---------|
| Crown Forest Estate —State Forests—000s hectares | 3 903 | 3 869 | 3 829 | 3 713 | 3 716 |
| Timber Reserves—000s hectares | 559 | 571 | 572 | 584 | 595 |
| Plantation Forest Management —Total area—000s hectares | 147 | 143 | 139 | 133 | 127 |
| New area established—hectares | 3 879 | 4 414 | 5 939 | 6 437 | 7 775 |
| Replanted area—hectares | 169 | 416 | 372 | 205 | 142 |
| Native Forest Management —Area treated—hectares | 7 595 | 8 605 | 8 947 | 7 839 | 9 430 |
| Nursery Stock Produced —For Departmental use—000s | 4 400 | 6 048 | 7 235 | 8 000 | 11 308 |
| For Amenity and Forest Plots sales—000s | 601 | 1 129 | 1 059 | 523 | 400 |
| Hazard Reduction (Prescribed) Burning —Native Forests 000s hectares | 76 | 100 | 106 | 159 | 107 |
| Plantations—000s hectares | 20 | 14 | 12 | 12 | 8 |
| Wildfires —Number of fires | 10 | 270 | 64 | 157 | 206 |
| Area burnt—000s hectares | — | 197 | 35 | 67 | 63 |
| Roads Constructed —Kilometres | 253 | 282 | 266 | 324 | 298 |
| Timber Cut on Crown Lands —Native Forests—000s cubic metres | 456 | 406 | 575 | 593 | 637 |
| Plantations—000s cubic metres | 283 | 210 | 303 | 350 | 285 |
| Expenditure —Forestry Development Fund—\$000s | 25 601 | 24 835 | 20 480 | 22 687 | 19 265 |
| Consolidated Revenue Fund—\$000s | 16 171 | 14 914 | 13 394 | 11 768 | 10 520 |
| Loan Fund—Recreation Facilities—Construction \$000s | 213 | 123 | 183 | 339 | 441 |
| Forestry and Lumbering Fund \$000s | 13 989 | 12 567 | 12 180 | 9 540 | 8 577 |
| Staff —Wages | 1 112 | 1 215 | 1 087 | 1 211 | 1 192 |
| Salaries | 645 | 645 | 642 | 631 | 632 |

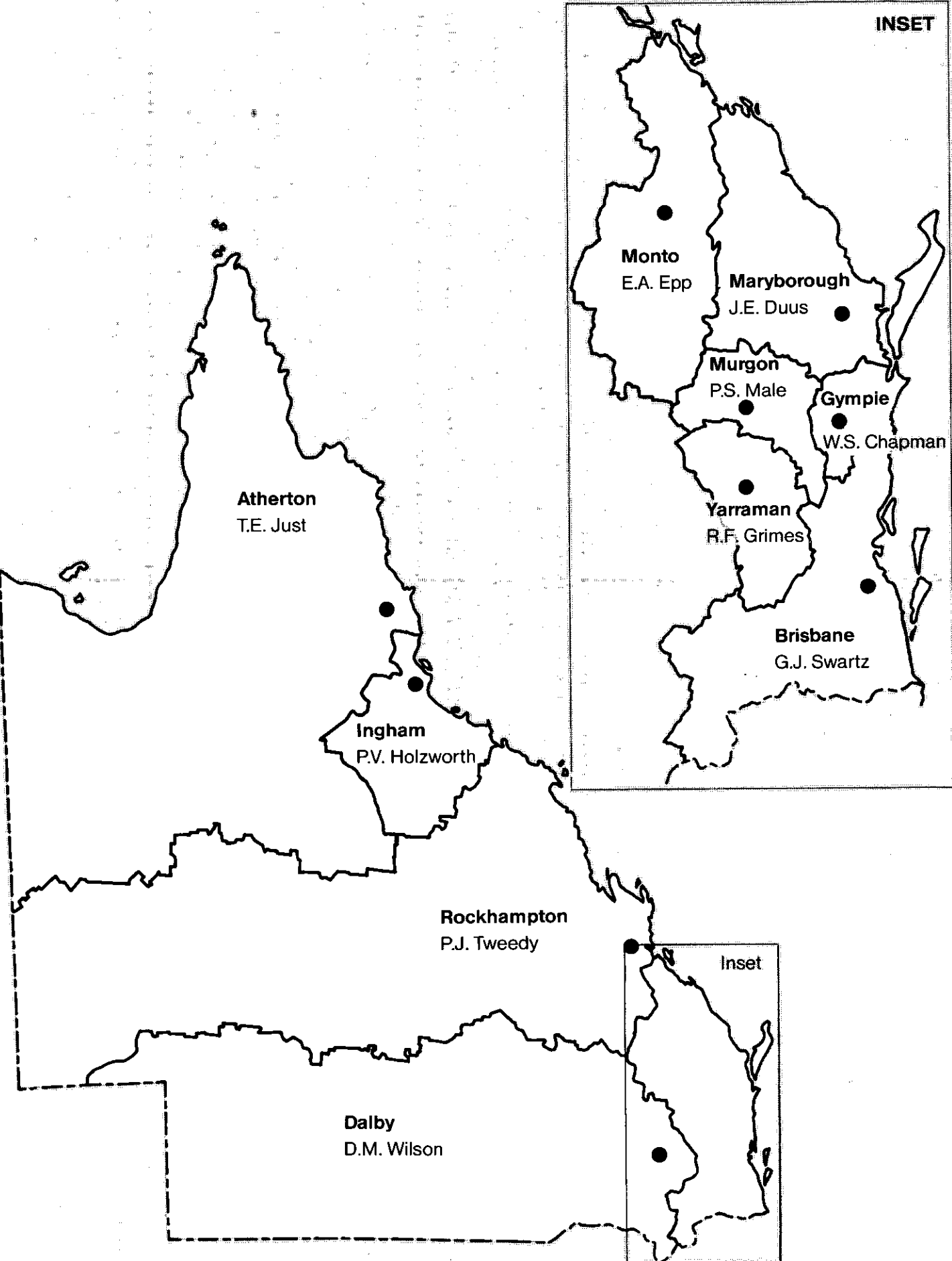


Official opening of the new \$232 000 Jimna Office.

ORGANIZATIONAL STRUCTURE



FORESTRY DISTRICTS & DISTRICT FORESTERS



IMPORTANT DEVELOPMENTS

Departmental Re-organization

Departmental functioning during the year reflected the benefits of the major organizational review which continued to be introduced progressively into all 10 Forestry districts.

Staff co-operation and enthusiasm contributed markedly to the transition from the old to the new organization. Consequently, the anticipated benefits became evident quite early. As a result, the Department now is better equipped to deal with the demands of technological, economic and social change that will impact on forest management. In practice, this means increased organizational flexibility, capacity for improved planning and delegation of responsibilities at appropriate levels.

The definition of line and staff functions for personnel was undertaken at workshops conducted throughout the State. Decentralization is an integral part of the new structure, allowing the 10 districts to be more responsible and accountable for their functioning. The organizational structure chart shows the main divisions of Forest Management, Technical Services and Administration and the relationship between each, the executive, the various branches and the districts.

Aided by increasing use of communication and computing technology, the new organizational structure will allow what is a large and decentralized (in terms of physical location especially) organization to make the most of its capacity to provide sound forest management in one of the State's most vital primary industries.

State Forest Management Plan

While the Department is vitally concerned with timber production, it also has an enviable history of conservation and preservation as a primary producer. In full accord with the World Conservation Strategy for Living Resources, this Department has always striven to —

- Maintain essential ecological processes and support systems;
- Preserve genetic diversity; and
- Ensure sustainable utilization of species and ecosystems.

By adhering to these tenets, the Department will continue to ensure that its State forest management practices will allow—

- Conservation of the forest environment;
- Protection of catchment areas;
- Control of soil erosion;
- Protection of wildlife habitats;
- Conservation of the forest landscape and wilderness areas; and
- Provision of recreational, educational and scientific study opportunities.

To assist in documenting these issues a new document "Forest Management in Queensland" is nearing completion for presentation to the Queensland Government. The aim of this management plan is to help further ensure effective and soundly-based forest management for all forest values including timber production. Subject to Government acceptance, the plan is proposed to be made available to the public to improve understanding of forest management policies.

As a practical blue-print, the plan uses long term supply/demand projections to establish guidelines for realistic long-term planning. On the subject of the State's future timber needs, bearing in mind that the Food and Agriculture Organization of the United Nations predicts a widespread timber shortage which could ultimately reduce the State's overseas import supply, the plan looks at realistic ways of reducing the current need to import 50 per cent of our timber requirements. The necessary present planning for increased

internal timber production will therefore be able to be based on as-accurate-as-possible predictions of future needs within Queensland.

The importance of the plan is further accentuated because of the overall social and economic impact of the forests and forest-based sector, not only in Queensland but also in Australia as a whole. With more than one per cent of the State's working population (1981-82) directly involved in forestry, logging and primary and secondary conversion industries (annual turnover in 1981-82 of \$350 million), much depends on the adequacy of long-term planning for future growth.

On the question of funding, the plan also highlights the problems inherent in the present system of annual funding (based on five-year rolling plans) and the fact that even the fastest-growing commercial State forest has a minimum rotation of 30 years. Native timbers can take more than a century to reach marketable sizes. To plan development of an essential forest resource it is necessary also to take into account all variables, including possible devastating natural disasters. This requires considerably longer-term security of funding arrangements than those in operation.

Interaction between the community, local, state, national and international governments and organizations also is addressed in the plan. The intention is to ensure not only a good public understanding of the Department's activities, but also that the exchange of information between the Department and the community is maintained at optimum levels. In short, the plan recognizes that to a significant extent, the State will continue to depend on good management of its forest resource and also that social and economic factors cannot be ignored in the planning and implementation of sound forestry policies.

Research

The Department's research projects continued to provide valuable aids to forest management through greater understanding of the environmental and tree-growing factors and techniques.

The Conondale Range Fauna Study, in its second year, resulted in some very important discoveries. Two of the five species of lobster found are understood to be species new to science. The marbled frogmouth owl was located over a far greater range than that previously known, while a particularly exciting discovery was the eastern bristle bird—hitherto not sighted so far north.

Significantly, the fauna study is conducted together with the Queensland Museum, National Parks and Wildlife Service and the Conondale Range Committee. A member of the Queensland Ornithological Society is helping with the frogmouth owl studies.

Ips Grandicollis, an imported destructive insect, was located in Queensland conifer plantations. Following biological evaluation, biological control agents have been introduced on a trial basis. Other biological controls are under investigation for the control of root rot pathogens.

During the year there was an increased public demand for extension services.

Chinese Forestry Project

A particular Queensland strain of river red gum is showing great promise in Guangxi Zhuang Autonomous region in China—in an Australian Aid Forestry project that has been managed there by the Department since 1981.

The Department was appointed managing agent of the project by the Australian Development Assistance Bureau (ADAB) and advisory staff from the Department were posted there in May, 1982.

Besides the river red gum, Queensland-bred strains of Caribbean pine also are expected to perform well.

IMPORTANT DEVELOPMENTS—continued

The main objectives of the Dongmen project are to demonstrate the scientific testing of seed strains, fertilizer application and intensity of site preparation and to introduce local staff to modern machinery operation. Important among other ancillary tasks being carried out are volume table construction and investigation of the relationship between measurable site parameters and forest productivity.

The 400-hectare demonstration forest already planted has attracted considerable interest and illustrates the Department's ability to provide considerable expertise to developing countries undertaking forestation projects in tropical and subtropical areas.

Final Crop Sales

The first major on-going sales of final crop native (hoop) pine were made during the year and utilization of final crop exotic pine continued to expand.

The hoop pine put under sale came from plantations in the Yarraman District and amounted to 55 000 cubic metres per annum of high quality timber.

Exotic pine operations reached 29 000 cubic metres of final crop trees—and this will increase progressively to 276 000 cubic metres per annum by 1996.

Proposed Pulp and Paper Mill (Maryborough/Gympie Area)

In April, paper was produced on a commercial scale in Finland using pulp from thinnings harvested at Toolara and shipped to Europe in January.

This stand of one-year-old *Euclayptus cloeziana* is one of 15 eucalypt provenances from Australia in the Queensland managed trial planted at Dongmen Forest Farm, China.



It was an event indicating further significant progress in a feasibility study for a pulp and paper mill in the Gympie/Maryborough region by Finnish consultants, Ekono Oy.

FORESTRY MUSEUM

"WoodWorks, the Forestry and Timber Museum" was the name officially given to an impressive new venture opened in March, 1984. Located at the Gympie Forestry Centre and costing almost half a million dollars, WoodWorks was built by the Department of Works on behalf of the Department of Forestry and the Queensland Museum.

The display and administration areas are housed in an architect-designed traditional building using local timbers, and working demonstrations are conducted in special areas both inside and out.

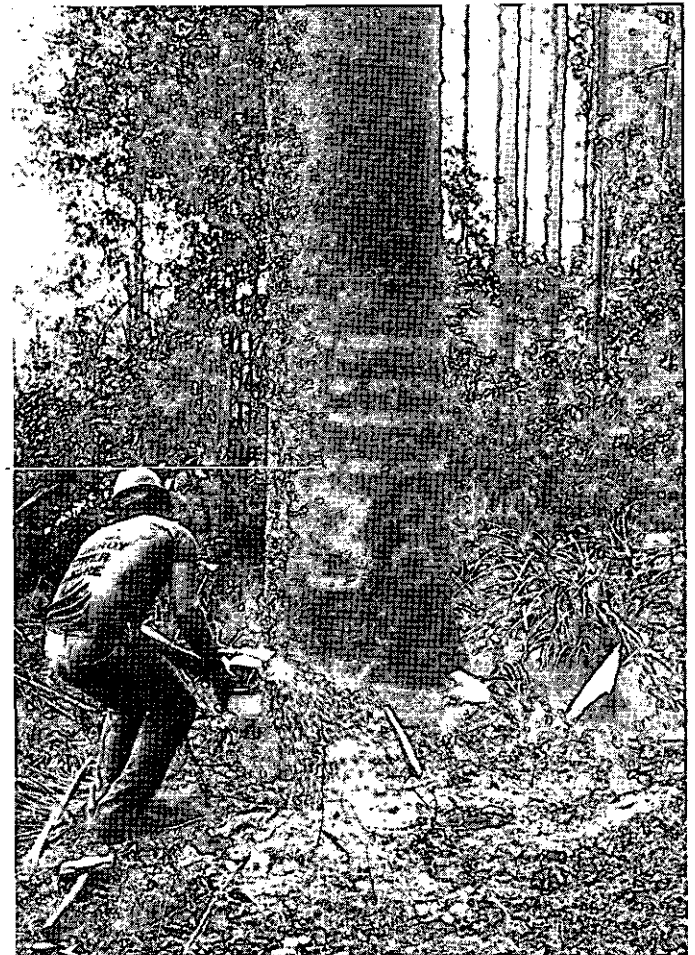
WoodWorks offers visitors an opportunity to discover the timber and forestry history of Queensland and importantly, is the first country branch of the Queensland Museum. It maintains an appropriate educational component.

COMMUNITY EMPLOYMENT PROGRAMMES

An interesting aspect of the year's activities has been the support from a number of important CEP projects. They provided jobs for about 60 people and enabled work to continue in a number of areas.

The work ranged from plantation development to restoration and building at the new museum and upgrading of recreational facilities. Altogether an amount of \$250 816 was made available from Commonwealth Government funds and this was supplemented by State funds.

Timber-cutter Doug Smith fells a giant "four-ringer" plantation hoop pine during the harvest of final crop trees at Benarkin State Forest.



ADMINISTRATION

Streamlining of operations occurred in all areas of the Department's activities. High priority was given to the nature and methods of undertaking work and authority of staff involved.

Personnel

Introduction of an Annual Activities Program will assist the Branch to meet the needs of the Department more fully. This will be achieved by priority ranking activities identified by management as necessary, then implementing appropriate action and monitoring and reviewing progress and effectiveness.

Processing of structural and staffing changes due to the re-organization of the Department continued and included implementation of the recommendations of the Forest Ranger Review.

Further development of the proposed computerization of the wages staff personnel and payroll functions proceeded satisfactorily. The proposal envisages the initial installation in Brisbane Sub-District with other District centres being phased in progressively over the next two years. Plans for the installation of the Public Service Board's MANPOWER computer system also advanced during the year.

In keeping with the Government's policy of zero growth, salaried staff remained at 645. Wages staff numbered 1 112 at June 30, compared with 1 215 establishment as at June 30, 1983. (Appendix 15 details the staff distribution). Fifty salaried officers left throughout the year, including 17 officers who transferred to other Government departments and seven officers who retired after long and meritorious service.

Overseas Visits

Responsible forest services throughout the world have a similar goal—perpetuation of the forest resource. Therefore, with the need for continuing exchanges of information on all topics related to the world's precious forest resources, Forestry Department officers took part in a number of overseas visits.

The Conservator of Forests accompanied the Honourable the Minister for Lands, Forestry and Police to Finland from April 17 to 29, 1984, to witness a trial utilisation of Queensland-grown pine logs in a commercial size paper-pulp mill production run.

At the request of the People's Republic of China the Conservator of Forests undertook a visit to China from May 29 to June 8, 1984, to discuss and inspect progress in the Dongmen project.

T. RYAN—Assistant Conservator of Forests, was invited to attend the First ASEAN Forestry Congress in Manila from October 10–15 and to attend a post-Congress study tour from October 16–18. Following this study, Mr Ryan inspected tropical forest management operations in Malaysia from October 19–22. He also visited New Zealand from April 29 to May 26, 1984, under the New Zealand/Australian Officer Exchange Scheme.

G. M. SHEA—Manager, Land Use and Information Branch, attended an International Union of Forest Research Organisation (I.U.F.R.O.) Symposium on Site and Productivity of Fast Growing Plantations in South Africa from April 23 to May 6.

D. S. CASSELLS—Senior Forester, presented two papers to an I.U.F.R.O. Symposium on the "Effects of Forest Management on Erosion and Slope Stability", in Hawaii from May 6–12.

Dr D. G. NIKLES—Officer in Charge, (Tree Breeding) Forest Research Branch, attended the I.U.F.R.O. Work Conference Republic of South Africa and Zimbabwe from March 31–April 24 presenting five papers which were an important contribution to the success of the conference.

N. CLOUGH—Manager, Marketing Development Branch took part in a study tour to the west coast of the U.S.A. from March 12–23 to investigate the application of electronics to sawmills

cutting small logs and to attend the Forest Industries Clinic and Machinery Show in Portland, Oregon.

Dr L. LEIGHTLEY—Officer in Charge (Wood Chemistry and Preservation), Timber Utilization Branch, attended the International Research Conference on wood preservation in Sweden from May 23–June 18 and discussed wood chemistry and preservation at European Institutes and industrial concerns.

Officer Interchange

From February, Dr R. L. Eiseman, Biometrician Division 1, Forest Research Branch, spent three months at the Forest Research Institute, Rotorua, New Zealand, under the Public Service Officer Interchange Programme, acquiring increased expertise in the development and application of advanced technology of quantitative genetics in forest tree breeding.

Officers on Overseas Projects

With the projected continuation of the Dongmen Project to the end of June, 1985 (and the possibility of further extension to late 1986), two officers returned to Australia in May and June respectively. Their replacements took up duty in China in early May.

Staff Education and Counselling

Staff continued to develop both their personal and professional skills through part-time studies and at the close of the financial year, there were 59 officers and wages employees undertaking part-time educational courses under the various study assistance schemes.

The Employee Assistance Scheme continued throughout the year and the EAS brochure and supervisor's manual were re-drafted. Career advice and information on available educational courses also were offered to interested staff.

Industrial

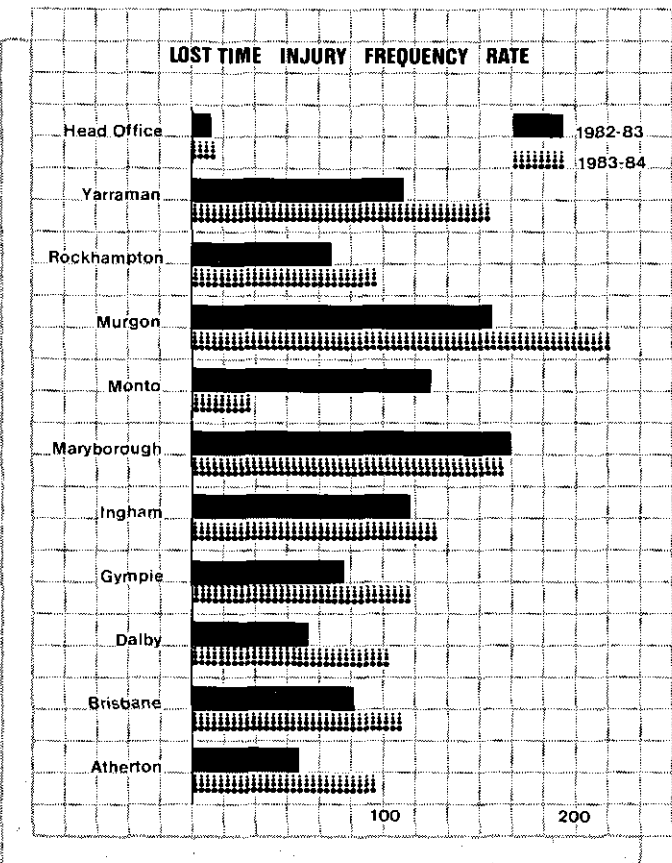
Positive industrial relations management ensured improved relationships between staff and supervisors and kept industrial action to a minimum throughout the State. Included among improved employee conditions generally were: New trial arrangements for those engaged in fire detention duty and alteration of conditions for salaried officers performing extra duties during the fire season. Consultation between employees, supervisors, managers and union representatives resulted in a greater appreciation of industrial problems encountered by staff.

Safety

The Safety Officer visited all districts to attend safety committee meetings, conduct safety training and complete outstanding sight screening and audiometric tests. Safety training sessions were held for 1 072 employees. One hundred and forty-eight supervisory staff completed accident prevention courses and 924 field staff attended general safety training sessions. Forestry continued to utilize the Division of Occupational Safety's training assistance and to provide staff protective equipment. A number of staff gained membership of various safety awareness clubs as a result of wearing equipment that reduced the seriousness of injuries. Two internal safety awards again were presented, with Monto District winning the annual Minister's Safety Shield Award for the lowest accident frequency rate. Monto District also won the Conservator's Safety Shield for the most improved accident-free record.

SAFETY RECORD SINCE 1979–80

| YEAR | WORKERS COMP EXPENDITURE ('000) | LOST TIME INJURY FREQUENCY RATE | AVERAGE INJURY DURATION (DAYS) |
|-----------|---------------------------------------|--|---|
| 1983 - 84 | 377 | 107.96 | 6.82 |
| 1982 - 83 | 441 | 85.71 | 11.56 |
| 1981 - 82 | 334 | 86.28 | 9.51 |
| 1980 - 81 | 252 | 87.82 | 11.37 |
| 1979 - 80 | 322 | 72.45 | 12.84 |



Queensland College of Art Student, Debbie Mitchell, is instructed by Graphic Art Assistant, Andrew Hellen, as part of her work experience with the Department.



EMPLOYMENT OF DISABLED PERSONS

Participation in a scheme to provide opportunities for disabled persons continued with the appointment of another staff member to administrative duties. This brought to four the number of disabled persons working for Forestry.

ADMINISTRATIVE SERVICES

Accommodation

Additional space was provided to the Department on the 10th Floor of Mineral House to relieve congested office conditions. At the same time, office accommodation on Floors 11, 12 and 13 was re-organized to permit a more efficient functioning of Divisions and Branches.

Negotiations are continuing with the Department of Works and the Department of the Public Service Board to provide new or to update existing accommodation in a number of country centres including Maryborough, Monto, Ingham, Rockhampton, Chinchilla, Blackbutt and Beerburum.

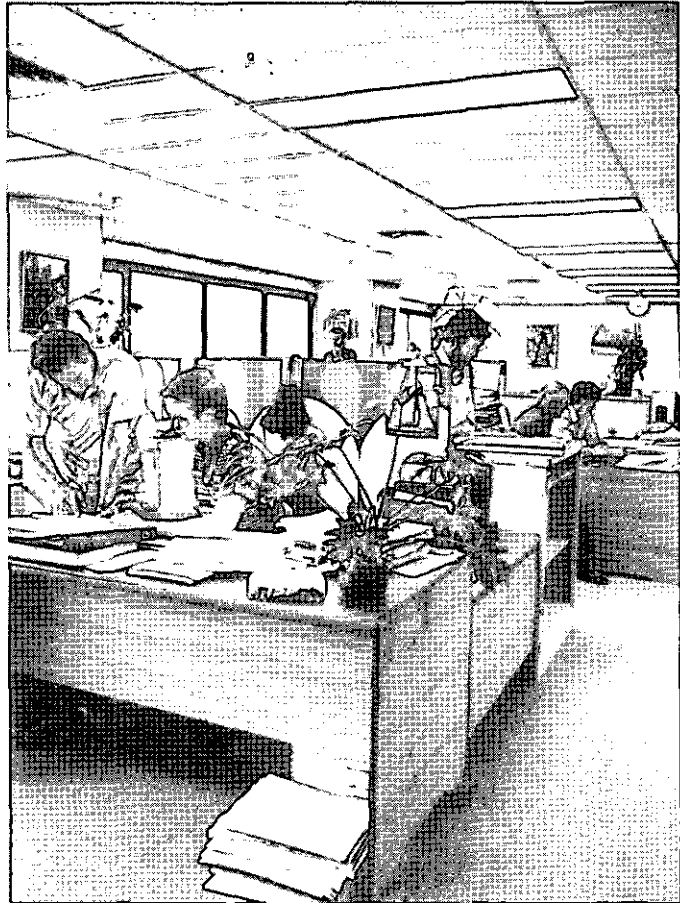
A new office built at a cost of \$232 000 by the Department of Works at Jimna in the Murgon District, was officially opened by the Honourable the Minister for Lands, Forestry and Police on May 16, 1984.

The building extensively features timbers produced in the sub-district. Wall panelling in offices is bush box and hoop pine. Exposed roof trusses also are hoop pine.

Typing Services

The typing resources and requirements of the Department have been investigated and plans are nearing completion to introduce new supervisory procedures which should result in a more efficient service being provided to all Divisions.

Computer Services Branch officers working in new accommodation provided for them on the 10th floor of Mineral House.





DEATHS OF SERVING OFFICERS

Hughes, F. V.

Forest Ranger Division II, Elginvale.
Service from 17-10-55 to 18-2-84

de Dombal, P. L. E.

Temporary Clerk, Inglewood.
Service from 6-6-60 to 27-12-83

English, G. T.

Forest Ranger Division I, Mundubbera.
Service from 13-6-63 to 12-9-83

RETIREMENTS

R. Exeter, Forest Ranger Division II (Surveys), Beerburum.
Service from 28-3-49 to 1-7-83

T. F. Yorkston, Director of Technical Services.
Service from 28-2-46 to 17-7-83.

R. W. Thacker, Mechanical Equipment Officer, General
Operations Branch, Division of Forest Management.
Service from 20-9-50 to 19-8-83.

A. J. Devlin, Manager, Estates and Legislation Branch,
Division of Administration.
Service from 17-7-40 to 8-11-83.

W. Cook, Forest Ranger Division II, Beerburum.
Service from 20-12-49 to 6-12-83.

W. B. Witts, Clerk (I-1), Department of Forestry, Atherton.
Service from 29-5-57 to 16-12-83.

M. J. Geraghty, Administration Officer, Warwick
Service from 2-3-42 to 27-1-84.

A Task Force has been investigating the needs of Word Processing Systems in Head Office in conjunction with typing functions and recommendations will be made to acquire this equipment to promote a speedier and more efficient service.

Stores Section

The Department's policy of enabling country workshops to order replacement mechanical parts direct rather than through a centralized Head Office system was continued during the year.

The main workshops in each of the 10 Forestry Districts are now operating under this system, with a resultant benefit of reduced down time of equipment under repair.

Work began on adaptation of the manual system of updating State Stores buying contracts and amendments to their computer-based system.

The new system is part of the State Stores Board on-going procedural review and its effect on the Department's central Stores Section and country ordering centres is yet to be monitored.

ESTATES AND LEGISLATION

No new legislation was introduced during the year but work continued on proposed amendments to the Forestry Act and updating the Timber Users Protection Act.

Breaches of Acts

Field officers continued to report and investigate suspected breaches of the statutes administered by the Department with a total of 108 reports being received. Of these, 105 involved alleged breaches of the Forestry Act and the remainder were alleged breaches of the Sawmills Licensing Act.



Investigation and processing of these reports together with others received earlier, resulted in 18 convictions and fines of \$5 100.00. In addition, complaints and summons have been served in 12 cases awaiting court hearings. Other cases are under consideration and prosecutions will be initiated in sufficiently serious breaches.

From other actions implemented by the Department for recovery of royalty and investigation costs, an amount of \$26 187.00 has been received.

Investigations during the year highlighted the need for landholders to ensure that they are fully aware of the exact location of the boundaries of their freehold land before negotiating the sale of timber from their properties. Attempts are being made, with the co-operation of local authorities to again bring this matter to their attention.

With the development of parts of some State Forests for recreation and the subsequent opening of these facilities, extra management responsibilities have been assumed by the Department. It is expected that proposed amendments to the Forestry Act now being drafted will provide Departmental officers with adequate powers to manage these areas effectively.

The Forest Estate

At June 30, 1984, State Forest and Timber Reserves in Queensland totalled 4 462 191 hectares, a net increase for the year of 21 659 hectares.

Total land acquisition costs were \$798,000, the major outlay being the final payment to acquire about 10 300 hectares in the Toolara area, for the extension of the Department's planting program and the acquisition by

resumption of two freehold portions which formerly comprised an inholding in the Amamoor State Forest.

ACCOUNTS BRANCH

The Queensland Government recently bought hardware in relation to computerization of Government Accounting together with application software for accounts payable, general ledger, budget control and forecasting accounting processes.

Forestry is the first Queensland department to implement this system and the accounts payable and general ledger segments are to be implemented as from July 1, 1984. A great deal of training and systems work has been undertaken to meet this deadline. Further implementation in the areas of revenue accounting, budget control and forecasting, is planned for the 1984-85 financial year.

In addition, the implementation of a computerized system for the payment of Departmental wages employees is planned for the 1984-85 financial year.

COMPUTER SERVICES

The Departmental Review saw the newly created Computer Services Branch recommending the most appropriate control methodology for meeting and co-ordinating the Department's computing needs.

As a result, the branch's principal responsibilities became—

- To ensure the Department is provided with adequate computing services; and
- To develop and maintain a rolling five-year computing plan.

Computer systems associated with marketing, mechanical plant and equipment, research and accounting activities, were updated.

One staff member was seconded to work with the project team implementing the recently approved M.S.A. accounting system, while another took part in evaluation of Government tenders for micro computers, word processing equipment and a personnel/payroll software package for contracts to supply all Government Departments.

MANAGEMENT SERVICES

Under Stage III of the Review of the Department's organization and structure (positions below Branch Head and District Forester level), Management Services staff collaborated with all divisions to define technical and administrative structures and roles in districts and branches. This culminated in recommendations suggesting wide-ranging changes to positions and structures in all divisions and these were approved by Executive Council in November with positions filled in January.

Changes to the organization of the Department involved major delegation and decentralization of responsibilities and the clarification of lines of accountability. The major impact was in the Division of Forest Management, in particular on structures and roles in districts and sub-districts. This necessitated a workshop in February for key technical and administrative personnel from all districts and head office to develop a plan for implementing the new structures, roles and responsibilities. Public Service Board officers assisted in this workshop.

The resulting implementation plan covered marketing administration procedures, role negotiation and team-building activities in districts and sub-districts, management and supervisory training and development and impact of decentralization and increased delegation in districts and sub-districts.

Left: Accounts Branch officers discussing new computer equipment from left are: Cheryl Wolski, Kelly Bunker, John Weatherley and Gerhardt Schellein.

Above: Safety Officer Barry Paterson tests the hearing of Overseer Scott Kleinschmidt.

FOREST MANAGEMENT...DEVELOPMENT

RESOURCES

Plantations

Future thinning yields were calculated for Yarraman, Beerburrum, Kalpowar, Palen Creek, Goodnight Scrub and Deer Reserve. These yield estimates are required to regulate the flow of logs and pulpwood to industry at these centres. An integrated planning model for the Tuan/Toolara/Wongi plantation complex was developed. Linear programming techniques were used to select an appropriate strategy for each plantation unit to realise the maximum total plantation value, while achieving sawlog and pulpwood goals. The model will provide prospective buyers with information on saleable volumes, size and quality of logs for plant design and equipment purchase.

Improved field inventory procedures were designed and tested and will be incorporated into on-going plantation inventory systems.

Native Forests

Continuing inventory calculations and sawlog yield predictions for north Queensland and a return to growth modelling work constituted some of the year's major projects. At Mount Spec in north Queensland, rainforest sampling continued and yields are being calculated. Similar work will follow in other sawlog allocation areas to prepare for the review of north Queensland rainforest sawmill allocations in 1986.

Following completion of growth modelling of cypress pine stands, it is expected that the project will move on to the more complex native hardwoods and rainforests.

In central Queensland, following the stationing of a forester at Springsure, the potential of significant hardwood and cypress stands on Crown land for possible State forest reservation will be assessed.

Tenure Conversion

Valuation of timber on leasehold lands for the Land Administration Commission for conversion of tenure purposes continued.

The position at June 30, 1984 was:

| Applications | Number | Area (Hectares) |
|----------------------------|--------|--------------------|
| Withdrawn | 330 | 1 080 515 |
| Being processed | 68 | 293 098 |
| Awaiting, field assessment | 59 | 174 218 |
| Completed | 3 971 | 12 687 652 |
| | 4 428 | 14 235 483 |
| Totals at June 30, 1983 | 4 323 | 13 968 279 |

MARKETING DEVELOPMENT

The Department's new organizational structure saw the Marketing Development Branch evolve from the previous Harvesting and Marketing Branch but as a specialist branch divested of its former day-to-day operational role.

Essentially, the branch now concentrates on reviewing and developing marketing policies, planning and development work in pricing, sales marketing procedures including logging research and guidelines, measuring systems, log timber classification and treemarking rules.

Development Projects

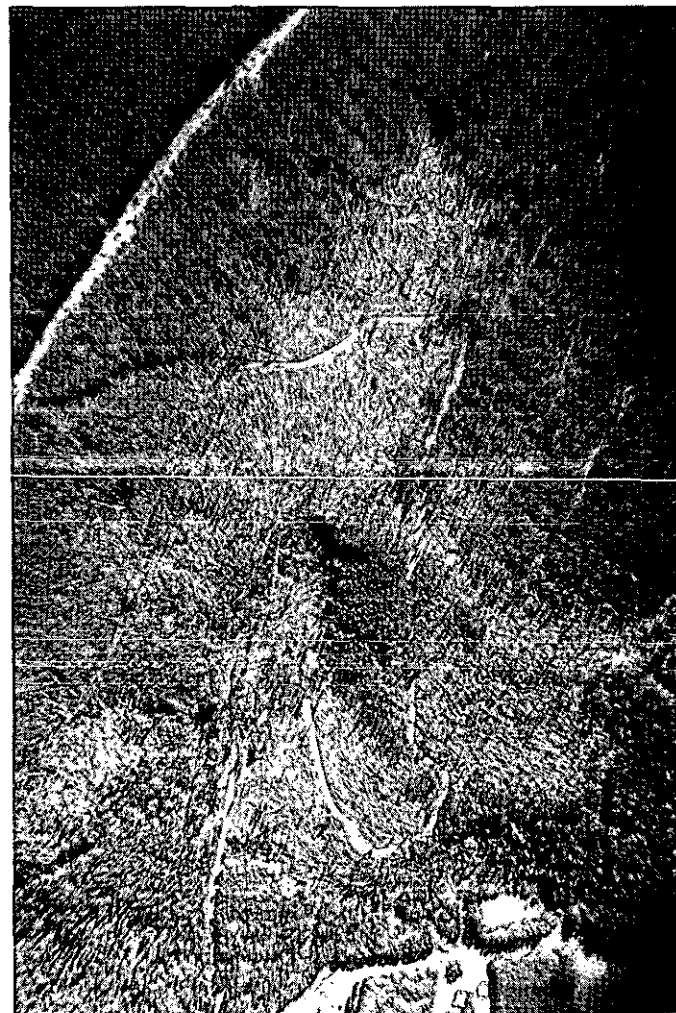
An important new pricing scheme for plantation timbers was introduced in January, to replace the historical residual stumpage system. It is a royalty scheme, developed in consultation with industry representatives, to—

- Restore price, size and quality differentials;
- Establish a royalty price system that maintains equity between buyers operating variable resources;
- Provide a simple basis for the generation of royalty price lists, including Consumer Price Index updates; and
- Maintaining existing revenue from the plantation estate.

Results of the latest conversion studies in Queensland sawmills processing plantation pine serve as the basic framework for the new pricing scheme.

Other sale related developments included—

- Development of new methods for handling emergency sales of plantation sawlog salvage material following hail damage at Passchendaele and severe wind damage in Gambubal plantations.
- Testing of "in-yard" log measuring for sawmills at Nandroya and Dingo, conducted with the Hardwood Harvesting Research Committee (a joint Industry/Forestry organisation). Seven sawmills will take part in future trials to further test the usefulness of "in-yard" measuring;
- Continuation of weight scaling for cypress sales and further development of the system for selling plantation sawlogs and pulp logs (including development of mass to volume conversion factors); and
- Initiation of sample selling trials of plantation pine to accurately determine, by systematic sampling, the harvestable volume on sale areas. If successful, this method should result in considerable cost savings.



FOREST MANAGEMENT . . . DEVELOPMENT—continued

The importance of new technologies, particularly those that are computer based, in the sale and processing of logs at sawmills, was investigated during a visit to the United States by Marketing Development Branch Manager, Mr N. Clough. The value of computers was particularly evident in the case of small to medium size logs as available from Queensland plantations.

Alongside these largely innovative ventures, the Department continued to monitor the environmental impacts of harvesting.

Pricing

Depressed economic conditions delayed log price increases planned for July, 1983, until January 1, 1984, while prices for miscellaneous other timbers were increased in November, 1983.

FOREST DEVELOPMENT

Planting Espacement

Exotic pine seedlings in coastal areas will be planted in future at reduced numbers per hectare, with the spacing between rows increased to five metres. Rectangular spacings have been adopted.

These amended spacings will reduce establishment and maintenance costs, particularly on sites where planting on mounds is necessary. They also will permit ready access between rows of trees for mechanical equipment and the elimination of out-row thinning as currently practised where every fifth row is used for access to and egress from plantations during harvesting.

Left: A major salvage operation was required to recover timber when storms damaged this *Pinus radiata* plantation on Gambubal State Forest earlier this year.

Below: Cypress pine logs harvested in the Dalby Sub-District are weight-scaled before dispatch to sawmills.

New planting espacements

| Zone | Species | Nominal plants per ha (spacing—metres) | |
|--|----------------|---|--|
| | | To be Adopted | Previous |
| North to and including Wongi (near Maryborough) | Caribbean Pine | 950 (5.0 × 2.1) | 1 230 (3.0 × 2.7) or 1 110 (3.0 × 3.0) |
| | Slash Pine | 830 (5.0 × 2.4) | 1 110 (3.0 × 3.0) |
| North of Wongi | Caribbean Pine | 670 (5.0 × 3.0) | 810 (3.0 × 4.1) or (3.5 × 3.5) |

Mechanical Plant

For planting exotic pines on poorly-drained sites, a Department designed mounding plough went into service to build medium-sized mounds, in a single pass. Formerly two passes with a Shearer majestic plough were necessary.

There were more reductions in the tractor-dozers fleet due to the necessarily reduced plantation establishment. Two M15 dozers were withdrawn from service and not replaced.

Altogether 176 vehicles and four graders were purchased during the year.





Evaluation of a new fire tanker design featuring a 3 800 litre aluminium tank, twin monitors in the crew compartment and electric rewind 60 metre hose reels, proved favourable. A major departure from previous designs will be the use of a diesel powered high-pressure pump to increase reliability and eliminate the fire risk associated with petrol engines. It will double the pressure of present pumps greatly increasing throw of the monitors and the water stream at the end of long hose runs. The prototype is being built at the Gympie workshop on a Mercedes Benz 4 × 4 truck for field trials in September.

Major Constructions

Three major bridges were completed during the year—

- A single 15 metre span prestressed concrete structure over Tinana Creek to provide access into new plantation areas on Tinana Downs, Toolara;
- A 30 metre timber, steel and concrete structure to provide access over Canoe Creek into new plantation areas near Ingham; and
- A double span 30 metres prestressed concrete structure over the Barron River at Tinaroo replacing a wooden bridge built in 1955. The bridge will provide access to plantations and recreation areas next to the Tinaroo Dam.

Plant and Equipment

Two improved aerial ignition incendiary machines were developed and built for the prescribed burning programme. Improvements to passenger comfort and safety in Departmental trucks were continued with the addition of further crew cab modules to existing tray tops.

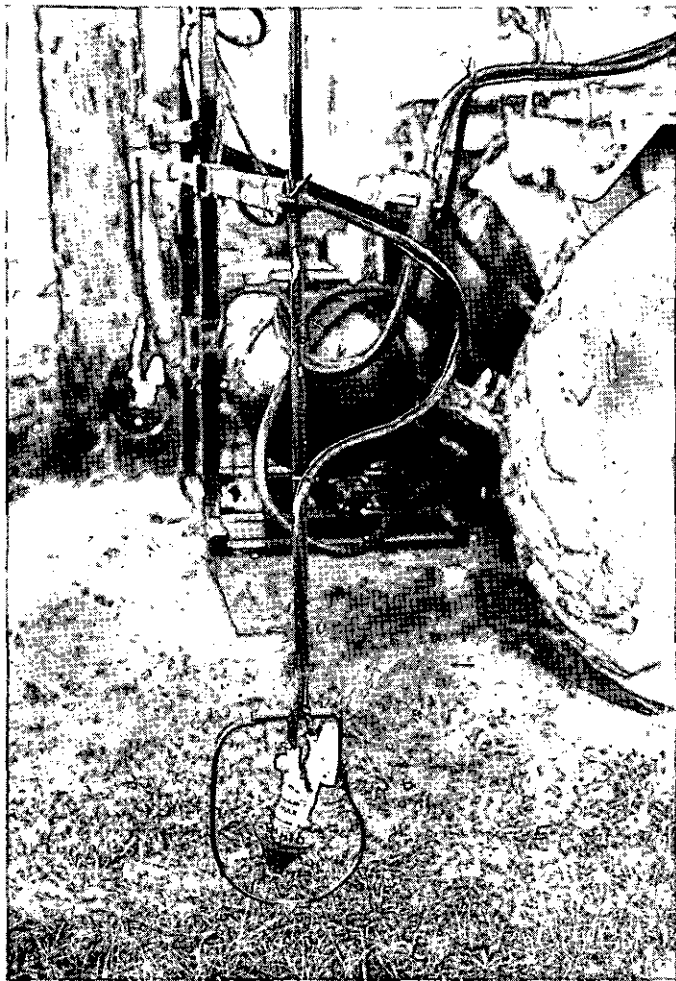
**REFORESTATION EXPENDITURE 1983/84
UNDER THE DEPARTMENT'S WORKS PROGRAMME**

| Item | Expenditure | % of Total |
|---|-------------------|--------------|
| Plantations | 7 699 694 | 36.0 |
| Natural regeneration | 638 925 | 3.0 |
| Protection | 914 075 | 4.3 |
| Nursery expenses | 480 831 | 2.3 |
| New construction | 360 421 | 1.7 |
| Seed collection* | 35 703 | 0.2 |
| Surveys | 137 571 | 0.6 |
| Purchase and maintenance of working equipment | 1 024 535 | 4.8 |
| Research | 899 027 | 4.2 |
| Total direct expenditure | 12 160 782 | 57.1 |
| Overheads | 9 153 136 | 42.9 |
| Total reforestation works expenditure | 21 313 918 | 100.0 |

*This refers only to seed collection expenditure incurred for the Works Programme. A further amount of \$115 970 was expended on collection of seed intended for sale.

Capital Works

Jimna Forest Station received an automatic chlorination plant as part of a new programme to upgrade water supply quality to forest stations and recreation areas and expenditure on this programme will be expanded over the next few years. A new 240 volt generating plant and electrical reticulation system was installed at the Ungowa State Forest on Fraser Island.



At Toolara, a bore was sunk to provide an improved supply of water to the forest station. Extensions also were made to upgrade officer accommodation.

Weed Control

Weed control remained a major operation in plantation areas. The use of both residual herbicides and sown pasture was further developed for hoop pine establishment. Sprinkler sprayers are being developed as a possible solution to lantana problems.

Establishment of exotic pine plantations on areas carrying pastures was achieved through grass control using computer-controlled "Micro Max" booms applying various knockdown and residual herbicides. Tractor-mounted rope wicks were specially developed for application of herbicides to grass and woody weeds.

FIRE PROTECTION

The past year was one of the mildest fire weather periods on record. An extremely wet winter was followed by a wet summer which kept conditions too moist for wild-fires. Only 10 fires were recorded, with suppression costing \$2 700.00. One hundred and six hectares of native forest were burnt with minimal damage.

Hazard Reduction Burning

PLANTATIONS. Wet conditions allowed increased hazard reduction burning in exotic plantations, with 13 560 hectares being burnt by hand and 6 110 by aerial ignition all by helicopter. To date, routine helicopter burning is limited to areas previously burnt by hand, but trial work is continuing on areas ready for their first burn.

NATIVE FORESTS. The mild season allowed for 76 350 hectares to be burnt by hand throughout the State. No aerial ignition was possible owing to wet conditions.

Equipment

MONSOON BUCKET. A helicopter-mounted water bucket was obtained on loan from New Zealand in 1983. Following extensive local evaluation, the heli-bucket was bought and stationed at Toolara for spot fire control in conjunction with ground crews. The bucket appears ideal for spotfire attack, particularly on fires poorly accessible on the ground. Similar buckets were used effectively during the disastrous 1983 Ash Wednesday fires in Victoria. The efficiency of aerial attack increases as the distance from a water point to a fire decreases. When fire retardant/water loads are used, the helicopter hovers and the bucket is filled by well-trained ground crews. Direct filling by immersion of the bucket from suitable water holes also is possible.

Ground surveys and minor clearing are required to establish a well-spaced series of accessible water points for ground and direct filling of the heli-bucket.

AERIAL IGNITION MACHINES. With the acquisition of two extra machines the total effective number of machines now available is four. The aircraft navigator now has precise control of each machine by a leg-mounted remote control. This should eliminate capsules falling outside the boundaries of the proposed burn.

Communications

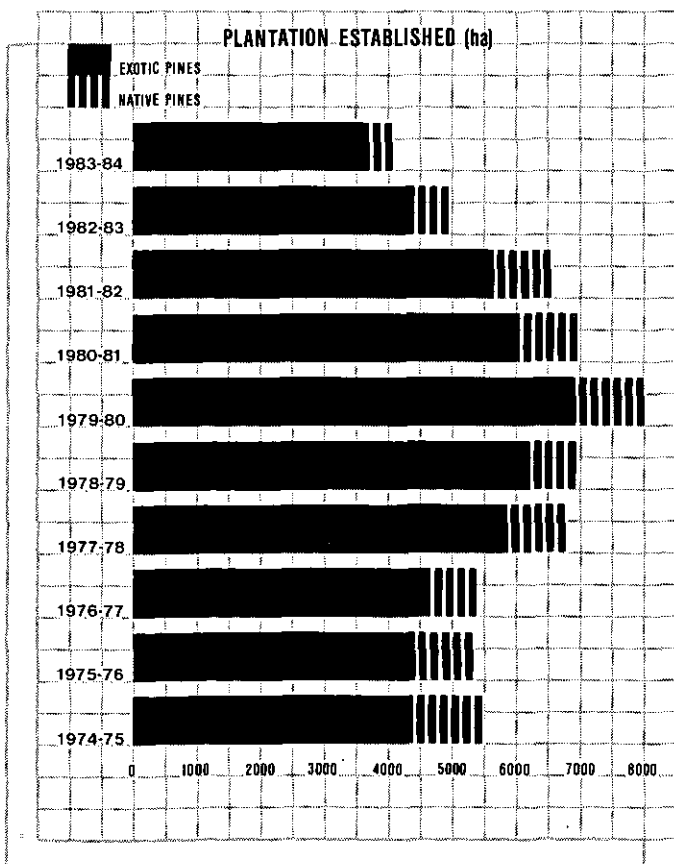
Upgrading and maintenance of Departmental radio systems continued. Three base stations at Dalby (Local VHF, Remote VHF and Remote Single Side Band) were replaced, as were bases at Inglewood and Kalpowar.

Construction of solar array power units was completed at Benarkin, Peachey, Nanango, Yuleba, Inglewood, Warwick, Aramara and Kuranda.

Fifty new mobile radios were bought for Dalby District and two single-side band units were installed at Monto and Kalpowar.

Left: This new 30 metre pre-stressed concrete bridge built by the department over the Barron River near Tinaroo will improve access to Danbulla State Forest in North Queensland.

Above: A "Micro-Max" boom sprayer was developed to apply herbicides in bands to pasture areas of pine plantations at Toolara.



FOREST MANAGEMENT... OPERATIONS

Timber Marketing

The volume of timber harvested from Crown and private lands during 1983-84 is provided in the Appendices. The total crown cut of milling timber and pulpwood was 739 119 cubic metres, an increase of 20 per cent on the previous year's cut.

Milling Timber removals for 1983-84 were 17 per cent above the 1982-83 levels.

Log timber receipts amounted to \$12 918 000 for the year which represented an increase of 17 per cent on 1982-83 receipts.

Sawmill Licensing

The number of timber mills declined further, due primarily to the consolidation and amalgamation of mills within zones throughout the State. At the end of the year there were 267 general purpose, 61 restricted licence, one sleeper residue licence and 29 portable mills licensed.

Plantation Establishment

During the year 4 048 hectares of plantation were established, consisting of 3 597 hectares of exotic pines and 451 hectares of native hoop pine. The total planted estate reached 147 005 hectares.

In August, as part of its plantation establishment plan, the Department acquired 10 300 hectares next to Toolara State Forest from Tinana Development Pty. Ltd. Acquisition followed the release of 17 460 hectares of State forest in the upper catchment of the Noosa River, for addition to Cooloola National Park. Seven hundred and fourteen hectares of the new property were scheduled for site preparation and planting in winter 1984. Preparation problems associated with pastures previously established on these sites were overcome by cultivation followed by grass killers and residual herbicide applications to inhibit competition from grasses. Final crop logging of exotic pine at Beerburum resulted in 46.3 hectares being scheduled for winter replanting. Preparation proved expensive, costing more than \$220 per hectare, largely due to these earliest planted areas being hand felled before initial planting, leaving hardwood stumps and logs. Debris has to be removed before replanting to avoid interference with subsequent silvicultural and logging operations. Unremoved pine stumps, however, make disposal difficult and cultivation and mounding where required, difficult and expensive.

At Benarkin (Yarraman District) an area of 49.2 hectares was re-planted following final crop logging of hoop pine. Minor problems were encountered with undergrowth and debris disposal requiring burning over parts of the area. Weed control systems were developed to meet the varied conditions encountered. Trial work on more cost-effective methods of second rotation plantation establishment continued.

Seed Collection and Sales

This year's *Pinus caribaea* seed collection reached 403 kilograms of clean seed, collected exclusively from high quality genetically improved seed sources. This, along with improvements in collecting and processing methods, produced excellent seed—an advantage in precision sowing. Most other species had relatively poor seed crops this year and collections were restricted.

Seed sales increased mainly due to a large \$57 700 sale of 200 kilograms of Caribbean pine seed to Fiji to re-establish plantations lost in a cyclone. There is a potential for further large seed sales of this species.

Receipts from seed sales amounted to \$135 568 of which \$116 663 was from overseas sales.

Plantations

PRE-COMMERCIAL THINNING. The pre-commercial thinning programme continued with routine operations on 17 074 hectares. Wilkinson's Timber Industries Pty Ltd employees under contract treated another 2 464 hectares. Special funds were provided to employ displaced sawmill employees after fire destroyed Wilkinson's Caboolture Sawmill.

Continuing delays in the setting up of a pulp and paper mill in the Gympie-Maryborough area have exacerbated plantation overstocking in the zone from which pulpwood will be drawn. *If allowed to continue, this will reduce the growth of superior trees on each site, decrease average stem volume, lead to increased logging and processing costs and lowered revenue.* Data showed that within the pulpwood zone, *pre-commercial thinning could be extended.* Pre-commercial thinning therefore, was initiated in pruned exotic pine stands planted during and after 1973 and in unpruned stands planted during and after 1976, following allocation of Community Employment Program (C.E.P) funds. This resulted in the employment of 42 people in the Beerburum, Gympie and Maryborough areas. This work began in April and May and will continue into the 1984-85 financial year. C.E.P. funds also were provided for similar work at Byfield (Rockhampton District) and at Kennedy (Ingham District) where 12 people were employed.



FOREST MANAGEMENT . . . DEVELOPMENT—continued

Native Forests

TREATMENT. Inadequate funding again has limited the area of native forests that received silvicultural treatment. Altogether 7 160 hectares of cypress pine and 435 hectares of hardwood were treated, representing an 11.7 per cent decline from the last year.

Forest Recreation

Public demand for outdoor recreation in State forests remains strong, with an estimated 870 000 visitor days' use of State forest parks and forest drives during the year. Although this represents a growth of 12.5 per cent over 1982-83 use, the rate of annual increase has slowed, due partly to saturation levels of visitation at popular times and a restricted development programme that has seen no new State forest parks developed since 1981.

Current funds are insufficient allowing only basic servicing and maintenance, limiting replacement and upgrading of old facilities and severely curtailing patrolling activity by Departmental officers. Presence of officers in State forest parks on week-ends and holidays, to help visitors and control any unruly minority, is the most common request by park visitors. Unless increased funding can be provided, it will not be possible to maintain the quality of the State forest recreation system which is seen as a major component of Departmental public relations.

Development funds have been used to augment facilities such as toilets and barbecues at existing parks and to expand the range of recreation opportunities through walking tracks and trails. Also under way are four C.E.P. projects, costing

\$140 000 and providing employment for 18 people for periods of from 12 to 17 weeks. These projects will provide walking tracks and trails at Berrburum, Goomburra and Danbulla, toilets and fireplaces at Danbulla and rehabilitation of part of the popular Bunyaville State Forest park on the northern outskirts of Brisbane.

The first full year's operation of the camper registration system for camping on State forest parks indicated good public acceptance. It gives campers site rules, a "Bush Code" of behaviour and information on other camping parks in Queensland as well as permitting more accurate usage estimates for operational planning.

An interpretive caravan is being developed by Brisbane District staff for use at shows, displays and State forest parks. It will extend recreation and information programmes by actively educating visitors about the Department's management and operations. The display caravan will be an excellent adjunct to the wide range of recreation publications.

Left: Overseer Dave McKenna loads pine seeds into a dewinging machine.

Below: Machine planting of pine trees on high mounds in progress at Wongi State Forest, Maryborough District.



TECHNICAL SERVICES...LAND USE AND

LAND USE

The planning for and implementation of sound land use principles to protect the forest environment—soils, water, plants and animals—is a primary function of the Land Use Branch. When examining proposals to use land for various purposes, the Branch ensures that adequate provision can be made for maintenance of the productive, protective, recreational and scientific/educational purposes of forested land and negotiates balanced multiple use. During the year attention was given to the Daintree/Cooktown region to help provide factual, rather than emotive comment on this now controversial region. Also, at the Commonwealth Government's rainforest seminar in Cairns during February, the Department provided detailed information to assist formulation of a national rainforest policy and will contribute to any further discussions and committee meetings to advise the Commonwealth Government.

Together with Lands Department and D.P.I. officers, Land Use staff helped in studies of the Ingham/Cardwell area to report on conflicting uses of the land for sugar crops and softwood plantations.

In a broadly based study, recommendations toward a policy of brigalow conservation on State Forests and Timber Reserves were completed with the co-operation and support of the Lands Department.

The Department has certain responsibilities as an advisory body under the *State Development and Public Works Organisation Act 1971-1978* and there has been an increasing number of requests for environmental comment from the Department on various development proposals. The Branch was, therefore, involved in providing appropriate information in a number of areas, including development strategies for Stradbroke Island and the Moreton Region, as well as a number of public utility proposals. In the case of the latter, the aim is to maintain productive forest and landscape values yet provide suitable access for power lines and other public utility services.

Environmental guidelines for forest operations are regularly monitored and reviewed and checklists provide for—

- Documentation of assessed impact levels;
- Documentation of impact minimization measures;
- Creation of internal awareness of environmental problems relating to particular actions;
- Providing knowledge on environmental safeguards; and
- Avenues to specialist advice.

A definitive State Management Plan was nearing completion during the year. Taking into account historical developments, Government policy decisions and future supply/demand projections, the plan formalizes the Department's considerable management responsibilities.

Another initiative was taken during the year when the Pomona Forest Advisory Committee was established to provide a forum for consideration of the Department's management practices by a group which includes representatives from local government, community interest groups and the timber industry.

Right: CAD Training Officer, Ian Gorski (right), discusses the merits of a Computer Graphics Terminal in Survey and Mapping Branch with CAD co-ordinator, Lindsay Redlich.

Far Right: Senior Chemist, Jack Norton, demonstrates an experimental preservative treatment cylinder at the 1984 Forest Industries Fair.

Information

Growing public demand for a wide range of information about the Department saw a general increase in both the quality and quantity of publications, displays and information for the media. Staff numbers were increased to cope with the demands. A permanent information and publications officer took up duty in December to liaise with media organizations, while two part-time artists were engaged to help with material for the ForEd programme.

Details on publications are listed in Appendix 16. Of special note during the year were two significant awards for the Department's 1982-83 Annual Report by the Institute of Internal Auditors and Australian Institute of Management.

Involvement in country shows and Brisbane's Royal National Association Exhibition again was productive. At the RNA, particular interest was shown in the Department's rainforest display where the rainforest management principles were explained to genuinely interested visitors hitherto unaware of the Department's important conservation role.

With about 6 000 public enquiries received and processed during the year, the section remains an important part of the Department and the one with the greatest public interface.



INFORMATION

ForEd

The development of the ForEd programme, a curriculum-based forest education plan for schools continued steadily, drawing closer to its introduction into schools. Jointly prepared by the Department of Forestry and the Queensland Education Department, ForEd is designed for three major subject areas: Social Science, Manual Arts and Science.

In order to fully meet classroom needs, involvement by the Department with assessment teams of practising teachers continued at a high level. The prototype programme evolving will consist of three subject-oriented source books outlining teaching strategies; and three resource folders covering the forest environment, its issues and its wood products.

Testing in schools is planned for the next financial year.

Survey and Mapping

Following the organizational review the branch now has four main areas—

- Surveying;
- Mapping and photogrammetry;
- Cartographic services; and
- Administrative support.

SURVEYING. Following acquisition of suitable field equipment, a licensed surveyor, seconded from the Department of Mapping and Surveying, was able to complete three major surveys in addition to minor cadastral and

topographic work. The surveyor also provided a consultant service to forestry, something not previously available.

Computer Aided Drafting (CAD) training for staff will begin in the next financial year following the buying of a graphics terminal to link with a new State Government computer located in Mineral House. CAD will be used for both cartographic and business graphics. In the long term, it is planned to use the system to maintain a plantations data base, though the success of the system in all areas largely depends on funding availability. Without it, the considerable potential of CAD will not be realized fully.

Comprehensive mapping of the forest estate continued (see Appendix 16). Full details of all the Department maps are listed in the "Catalogue of Queensland Maps" published by the Queensland Surveying and Mapping Advisory Council. Twelve thousand and forty-eight dollars worth of maps and posters were sold during the year through marketing arrangements with SUNMAP.

Low-level aerial photography again provided valuable aid for plantation management and among the on-going innovations was the use of a dual camera system. This produces greater versatility for print scales and film types. The system has, however, created high demands for camera equipment.

Besides meeting the Department's needs, low-level aerial photography also was conducted for the Lands Department, the National Parks and Wildlife Service and the Queensland Electricity Generating Board.





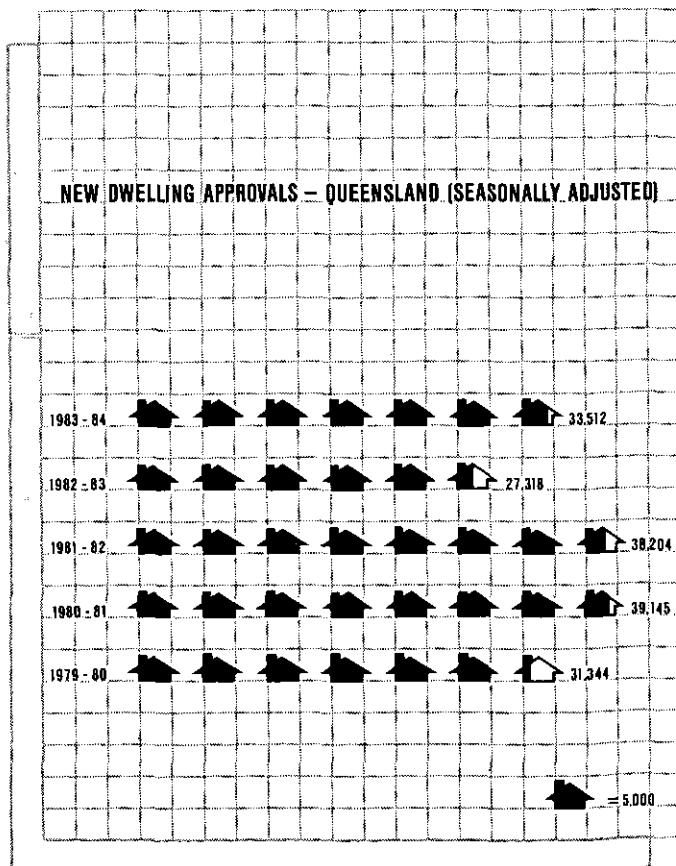
Gympie Training Centre

A highlight of the year was the acceptance of three Fijian students into the Fellowship Certificate course. All three students are middle managers in their home organizations. Two are employed by the Fiji Pine Commission and the third student is a Fiji Forestry Department technician. The presence of overseas students in the course has been mutually beneficial to all students and has signalled a new role for the centre in offering educational opportunities to students of developing countries.

Equally rewarding has been the successful completion of the first academic year of the Fellowship Certificate by all 25 Queensland students who originally enrolled in the course. This is quite an achievement for any educational institution. Students enrolled in the course have a wide variety of backgrounds, but all are united by a desire to contribute to the State's forest management.

After five years' operation, a major review of the relevance and effectiveness of the Fellowship Certificate began this year. Some of the major staff activities have been associated with evaluating the centre's curriculum. The review will continue next year.

Another important benchmark in the development of the centre as an educational institution was the hosting of a one-month Tropical Forestry Management course for senior managers of forestry organizations from developing countries. The course, sponsored by the Australian Development Aid Bureau, saw involvement of some of Australia's most accomplished land use managers and researchers. Both the centre and the Department as a land use





organization with tropical and sub-tropical interests, have considerable potential to offer this type of service to developing countries.

WOODWORKS, THE FORESTRY AND TIMBER MUSEUM

Officially opened by Forestry Minister, Mr Bill Glasson, on March 23, the new museum has established itself as a tourist and educational venue.

The name WoodWorks was suggested by Mrs Jewel Morgan, of Gympie and was the winning entry in a naming competition jointly sponsored by the Gympie City and Widgee Shire councils.

WoodWorks is noteworthy as the first country branch of the Queensland Museum and is jointly managed by the Department and the Museum. Day-to-day management is in the hands of a committee which includes representatives of the Department and Gympie City and Widgee Shire councils. Though initial visitor levels were erratic, it is quite clear that numbers are rising and that school visits will become a major component. To meet this demand, considerable effort has been put into providing suitable educational resource material.

LIBRARY

The Library had a record turnover of loans this year—7 460 items, of which 824 were borrowed from other libraries. Good use was made of the Library facilities by both staff and the general public and more than 2 000 reference enquiries were answered.

The Gympie Library has now established a viable reference collection. During the year the Library supplied 60 per cent of all loan requests from its own collection, answered 428 reference enquiries and indexed 500 research articles for staff.

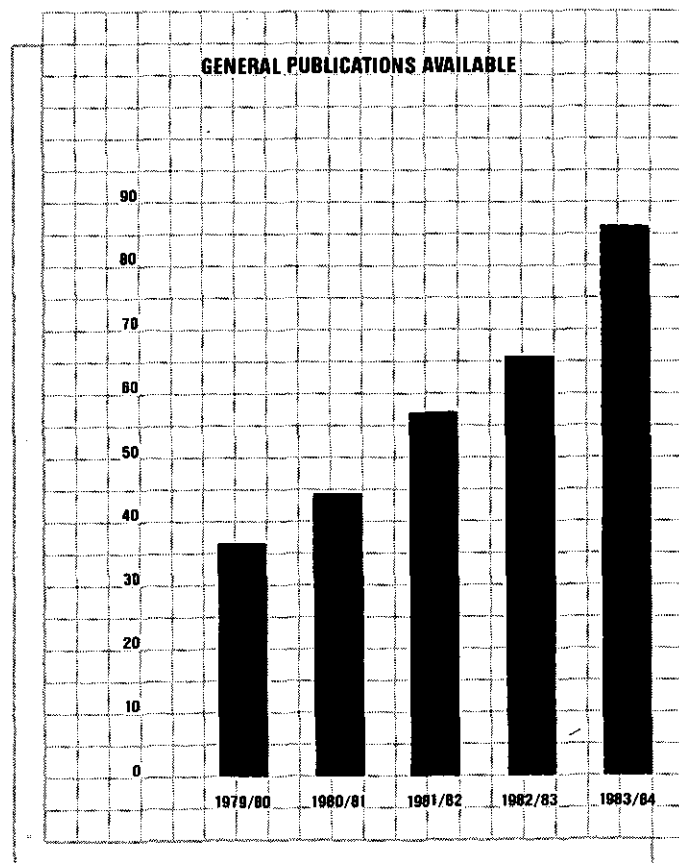
The first official meeting of Australian forestry librarians was held last year in Canberra. As a result of this meeting the Libraries now contribute to the Department's library newsletter *ALOFT* to exchange and implement ideas common to all the libraries.

ECONOMICS

Economic, financial and marketing analyses and forecasts relating to production forests confirmed the importance of a continuing plantation programme to supplement native forests.

Projections currently indicate that Queensland's sawlog consumption will rise substantially over the next 35 years. There will be a significant gap, however, between local consumption and availability. Reliance on overseas and interstate imports will therefore continue, though local softwood production should steadily increase its share.

While providing the raw materials for future modern and efficient wood processing industries, the decentralized plantation area also will significantly contribute to regional development goals.



Left: Australian and International Delegates to the Tropical Forest Management Workshop held at Gympie in July.

Above: The Minister for Lands, Forestry and Police, the Honourable W. H. Glasson, M.L.A., and Mrs Smart Snr. at the official opening of WoodWorks, the Forestry and Timber Museum, Gympie.

TECHNICAL SERVICES...RESEARCH AND

FOREST RESEARCH

Conondale Range Fauna Study

This study began in the Conondale Range in 1982 to measure the impact of logging on stream water quality, arboreal mammals, birds and stream fauna—particularly the gastric brooding frog, the southern day frog and the giant spiney lobster.

An exceptionally wet winter in 1983 rendered observation, particularly of stream fauna, difficult. Flooding resulted in repeated damage to stream sampling equipment designed to monitor sediment loads and stream chemistry. Most disappointing was the failure to locate any platypus frogs or southern day frogs despite intensive searching in co-operation with Queensland Museum and National Parks and Wildlife Service officers. Members of the Conondale Range Committee also took part in searches for these frogs in November and April.

There also have been successes. Five species of lobster were found in the Conondale Range with two thought to be new to science. More detailed studies on two species, the giant spiney lobster and the rainforest crayfish, revealed much about their life-histories and ecological requirements. The marbled frogmouth, a nocturnal bird once thought to be extremely rare and localized, is now known to be common and widespread in suitable habitat throughout the Conondales. Searches for the frogmouth owl, conducted further afield with a member of the Queensland Ornithological Society, have greatly expanded knowledge of the species' geographical distribution.

An unexpected bonus was the discovery, in February, of a hitherto unknown colony of the rare eastern bristlebird, a species not previously known to occur so far north. The Conondale Range Fauna Study will continue into 1985 with logging of the North Booloumba catchment expected to begin that year, allowing assessment of the effects on water quality to proceed. Searches will continue for the platypus frog and southern day frog, but in their absence, the stream fauna part of the study will concentrate on lobsters, with radio-tracking of giant spiney lobsters having already started. It is also hoped to apply radio-tracking methods to marbled frogmouths which proved too difficult to observe by other methods, in dense forest.

Biological Control of Root Rot

The basidiomycete root rot fungi, *Phellinus noxius* and *Poria vincta*, are important commercial pathogens which can cause death of hoop pine. The pathogens are particularly vigorous in the older hoop pine stands of Gadgarra in north Queensland where 20 per cent losses have been experienced in localized areas in the first rotation. The problem is likely to be even more serious in second rotation areas where the stumps of first rotation trees will provide a source of infection for the young plantations.

There are few practical control measures which can be considered for use against these root rot diseases. In recent years, however, the value of inoculation techniques involving the application of harmless basidiomycete fungi to freshly-cut stumps has been tested with some success.

Plantations in Gympie and Yarraman Forestry districts were used for a pilot study (1983) and inoculation of stumps with test fungi appeared to reduce significantly root rot infection. Following this success, thinnings stumps at Imbil and clearfall stumps at Yarraman were inoculated in February with the harmless fungi.

Right: Senior Entomologist, Ross Wylie, inspects pine billets containing *Ips* pine bark beetle parasites.

Insert: The exotic bark beetle *Ips grandicollis*.

Far right: Principal Utilisation Officer, Dave Gough explains solar kiln drying charts to timber industry representatives (from left) David Wilkinson, John Hancock and Col Wilson.

A further study will be initiated to investigate the interaction between the pathogens and the biocontrol agents in stumps in the field.

Ips Grandicollis

Following its recent appearance in Queensland the exotic bark beetle, *Ips grandicollis*, is now widespread and active in south-east Queensland pine plantations. Recent discoveries of low numbers in Toolara plantations north of the 1982 quarantine zone, made boundary adjustment necessary.

Studies on the biology of the insect indicated it is active throughout the year in Queensland and does not cease attacks during winter as in southern states. All species of *Pinaceae* are attacked and in the laboratory, the insect has successfully infested and completed a life cycle in billets of hoop pine (*Araucaria cunninghamii*). In the field, however, no *Ips* attack of plantation hoop pine has been observed. Studies on population dynamics of the insect in Queensland indicate that the number of insects produced per square foot (900 cm²) of bark are comparable with figures obtained in South Australia and the United States (i.e. 200–400 adults/900 cm²).

Two effective biocontrol agents of *Ips* from the United States—a Torymid wasp parasite *Roptrocercus xylophagorum* and a clerid beetle predator *Tbanasimum dubius*—were released recently in the Beerburum plantations north of Brisbane.

Mechanical Dewinging of Honduras Caribbean Pine Seed

A preliminary trial investigating the effect of mechanical dewinging on Honduras Caribbean pine seed viability was reported in 1977. Mechanical dewingings caused damage to the seed coat, ranging from complete removal to small cracks. Such damage had no immediate effect on the initial viability of Honduras Caribbean seed; however, viability was rapidly lost during the subsequent year's storage.



UTILIZATION

Following unsuccessful trials with wet dewinging (1981 Biennial Research Report), a new mechanical dewinger was recently bought. Research was begun to determine optimum settings to keep mechanical damage to a minimum. Speed settings of the rubber flappers which rub the seed wing off, have major influence on damage levels.

A technique to detect microscopic damage to seed, the X-ray Contrast Method, found that although visible damage to Honduras Caribbean pine seed was low at most settings of the new dewinger, microscopic damage was relatively high.

Laboratory germination tests over six months indicated that microscopic damage had no effect on seed viability if seed is stored under optimum conditions.

Trials have shown the value of the X-ray Contrast Method in the detection of microscopic damage which may normally be undetected. This method is a quick and easy means to establish the relative level of mechanical seed coat damage caused by processing machines.

Provision of Computing Facilities

A Digital Equipment VAX 750 computer and UNIX operating system were installed to store and manipulate a massive data bank gathered from yield and experimental plots throughout the State.

This data base provides information on experimental analysis, yield prediction, growth modelling and optimization strategies for forest management decisions.

The computer will replace the manual punch card data management system.

TIMBER UTILIZATION EXTENSION

Contact with the timber and building industry was strengthened this year. The importance of maintaining a stable and profitable timber industry is well recognized and steps have been taken to enhance the existing research/industry interface.

A highly successful open day was held at Forestry's Salisbury depot in April. Fifty-eight visitors from the timber industry, industry associations and allied Government departments attended. The programme consisted of a brief outline of the organization and work areas of each section in the Timber Utilization Branch followed by a conducted tour and demonstration of facilities and current projects. Another open day to cater more for the needs of the building industry is proposed.

In another initiative, a member of the branch will attend every second meeting of the Pine and Hardwood Division of the Queensland Timber Board. Information on new developments and the results of current research presented to industry members at these meetings and feedback on the research needs of industry will be obtained.

The Department of Public Works has accepted an offer for their architects and engineers to receive a short series of refresher lectures to update their knowledge in the use of timber. New developments, including timber preservation, structural design and the changing resource, will be discussed. It is intended to offer similar lectures to other Government departments such as the Queensland Housing Commission and Queensland Railways.





Courses for treatment plant operators together with the Timber Industry Training Council continued and a similar venture was started to train timber seasoning kiln operators. The demand for timber hand samples from schools and teaching institutions both in Australia and overseas rose dramatically during the year following publication of an advisory note. Schools are provided with sets of 24 samples each on request and a total of 3 500 samples were despatched. Requests for timber identification continue to be high. About 320 identifications were made during the year for the public and the timber industry.

Timber Users Protection Act (TUPA)

The *Timber Users Protection Act 1949–1972* is designed to ensure that timber preservation and timber seasoning practices are of a high standard. Fifty-five official complaints were lodged under the Act in 1983–84. Most have been resolved successfully and remedial action taken by the offenders.

Most *lyctus* complaints involved imported timbers such as meranti or Tasmanian oak. Four Timber Notes explaining difficult aspects of the Act have been published and lectures and meetings with trade, industrial and educational bodies were held.

Timber Preservation

The quality-testing programme for preservative treated timber initiated in 1983 under the revised regulations of the *Timber Users Protection Act 1949–1972* is running smoothly. Under this programme a sample of timber treated in every plant in the State is collected every four months and analysed to ensure that the retention of preservative chemicals is as required.

About 4 000 samples were analysed with results showing some producers had difficulty meeting the requirements of the Act. This highlighted the need to update treatment plant schedules, plant and safety aspects of the preservation industry. Fifteen plant approvals were suspended during the year following failure of their second consecutive sampling to meet requirements. Suspensions were lifted as soon as sample analysis was satisfactory. Close contact is maintained with members of the Wood Preservation Industry through the Hardwood Division of the Queensland Timber Board.

Biology

High demand continued this year for information on pests and diseases of trees, timber and other forest products. Through extension services the Biology section created awareness of problem areas and provided appropriate education for Government departments, industry and consumers. The identification and advisory service was especially useful for householders wishing to prevent and eradicate insect pests from their buildings or gardens. The section also was involved in other areas such as timber and plant quarantine and the decline of native trees on rural lands. Growing demand for the service is indicated by the graph below.

Detailed statistics gathered recently on extension services indicate that the Biology section handles about 48 per cent of all enquiries about forest products directed to the sections within the Timber Utilization Branch.

Above: Fumigation of Harris Court, George Street, to eradicate West Indian Drywood Termites.

Right: Chemist Robin Davis checks corrosivity of timber preservative measuring equipment at Salisbury. Wood Preservation Laboratory.



West Indian Drywood Termite Eradication Project

The West Indian drywood termite eradication project continued with another 953 enquiries relating specifically to the project received and processed. Of these, 26 samples contained West Indian drywood termite evidence from buildings (11) and furniture (15). Subsequently eight buildings were fumigated including historic Harris Court in the city. A group of three infested houses at Auchenflower led to the discovery of a transported infested house at Tewantin. The remaining infested houses occurred singularly with one each at Rosalie, Wilston and Maryborough.

TIMBER UTILIZATION RESEARCH

Wood Chemistry and Preservation

Solid state carbon-13 nuclear magnetic resonance spectroscopy (C-13 NMR) was successfully used in two projects using the 2 NMR facility operated by Griffith University. In the first study, detailed information was obtained on the molecular structure of timber thereby permitting the effect of fungal attack to be traced to individual components. This has direct implications in preservative treatment studies.

The second study involved the investigation of frass from wood-destroying termites and beetles and showed the differences in wood components utilized by these insects.

A milestone recently achieved by the Wood Chemistry and Preservation section was a new fast high volume analysis technique for pentachlorophenol using high performance liquid chromatography (HPLC). Pentachlorophenol is an excellent fungicide, regarded as the yardstick in experimental studies for testing new organic preservatives.

Timber Seasoning

Timber seasoning studies consisted principally of high temperature drying studies on plantation grown pine. Framing sizes from the final crop Tuan-Toolara slash pine resource dried extremely well using a standard high temperature schedule of 120°C dry bulb temperature and 70°C wet bulb temperature. High temperature drying of a consignment of framing material from leaning cyclone-damaged stems and straight stems, of Caribbean pine from Byfield with the moisture content of the charge continually monitored, successfully dried to an 8 per cent moisture level. Final quality assessment has yet to be undertaken. Visual inspection confirms, however, that low moisture content is essential for stability of timber.

A similar study of final crop hoop pine material is proposed for 1984.

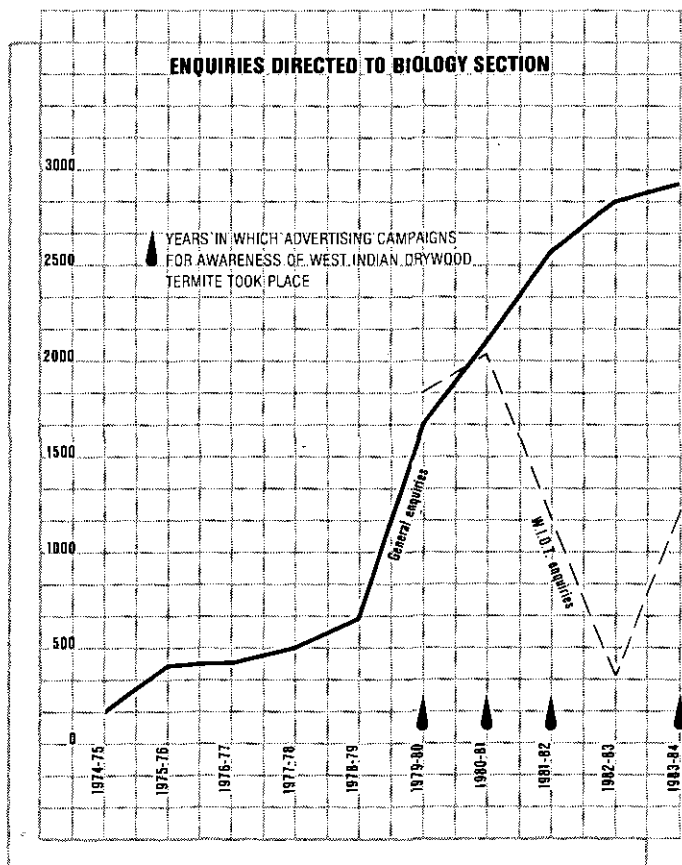
Equilibrium Moisture Content Survey

Current recommendations are that the moisture content of seasoned timber should be between 10 and 15 per cent unless otherwise specified.

Though this moisture content is satisfactory for major coastal population centres, problems have been encountered in drier western areas of the State. Results are now available from an equilibrium moisture content (E.M.C.) survey in which timber samples kept at various locations throughout Queensland were weighed every week for two years. The results indicate it may be reasonable and practical to recognize two, or possibly three E.M.C. zones within the State and this new specification will receive attention.

Wood Quality Assessments

Wood density surveys of the major plantation conifers were begun some years ago and the survey for the last major species, Caribbean pine, was completed during 1983. This study showed that mean basic density of Caribbean pine varies directly with age and inversely with elevation, latitude and site quality. This information will be useful in estimating the total pulpwood resource managed by Forestry.



APPENDICES

APPENDIX 1

STATE FORESTS AND TIMBER RESERVES LISTED BY DISTRICTS AND SUB DISTRICTS AT JUNE 30, 1984

| District | Sub-District | No. of Reservations | State Forest Areas (hectares) | No. of Reservations | Timber Reserve Areas (hectares) |
|--------------------|--------------|-----------------------|-------------------------------|---------------------|---------------------------------|
| Atherton | Atherton | 29 | 365 379.8420 | 24 | 302 537.7807 |
| | Total | 29 | 365 379.8420 | 24 | 302 537.7807 |
| Brisbane | Beerburrum | 24 | 58 901.9030 | 2 | 256.5180 |
| | Brisbane | 25 | 48 385.2391 | 5 | 4 567.5211 |
| | Warwick | 18 | 38 081.2280 | — | — |
| | Total | 67 | 145 368.3701 | 7 | 4 824.0391 |
| Dalby | Chinchilla- | | | | |
| | Barakula | 19 | 457 003.2730 | 1 | 5 768.0000 |
| | Dalby | 12 | 224 782.2060 | 2 | 150.2033 |
| | Inglewood | 30 | 213 479.6470 | — | — |
| | Roma | 40 | 338 913.0170 | 1 | 19 652.9600 |
| Total | 101 | 1 234 178.1430 | 4 | 25 571.1633 | |
| Gympie | Gympie | 27 | 82 893.1600 | — | — |
| | Imbil | 14 | 63 693.9020 | 1 | 0.2094 |
| | Total | 41 | 146 587.0620 | 1 | 0.2094 |
| Ingham | Ingham | 17 | 288 232.0890 | 2 | 798.4000 |
| | Total | 17 | 288 232.0890 | 2 | 798.4000 |
| Maryborough | Bundaberg | 17 | 116 060.7970 | 12 | 18 242.7860 |
| | Maryborough | 24 | 230 361.9090 | 7 | 9 427.6000 |
| | Tuan | 6 | 62 960.3000 | 1 | 0.2099 |
| | Total | 47 | 409 383.0060 | 20 | 27 670.5959 |
| Monto | Kalpowar | 9 | 29 792.4530 | 9 | 17 597.7609 |
| | Monto | 43 | 310 383.4570 | 7 | 7 178.8520 |
| | Total | 52 | 340 175.9100 | 16 | 24 776.6129 |
| Murgon | Jimna | 4 | 46 076.0000 | 1 | 1 860.0000 |
| | Murgon | 21 | 93 578.9110 | 6 | 3 981.4983 |
| | Total | 25 | 139 654.9110 | 7 | 5 841.4983 |
| Rockhampton | Emerald | 15 | 135 210.7220 | 8 | 116 857.1000 |
| | Mackay | 25 | 118 344.6710 | 11 | 27 715.0008 |
| | Rockhampton | 33 | 500 533.2690 | 6 | 19 436.9290 |
| | Total | 73 | 754 088.6620 | 25 | 164 009.0298 |
| Yarraman | Benarkin | 14 | 48 394.1520 | 4 | 2 756.8240 |
| | Yarraman | 11 | 31 955.4078 | 2 | 7.4130 |
| | Total | 25 | 80 349.5598 | 6 | 2 764.2370 |
| State Total | | 477 | 3 903 397.5549 | 112 | 558 793.5664 |

APPENDIX 2

RESERVATION FIGURES FOR THE YEAR ENDING JUNE 30, 1984
JULY 1, 1983 - JUNE 30, 1984

| | No. of Reservations | Area (hectares) |
|---|---------------------|-----------------------|
| STATE FORESTS | | |
| Figures as at July 1, 1983 | 474 | 3 869 430.8136 |
| State Forests declared..... | 8 | + 16 050.5340 |
| State Forests declared and added to existing State Forests | | + 6 373.2345 |
| Timber Reserves declared State Forest | | + 1 300.0000 |
| Timber Reserves declared State Forest and Amalgamated with existing State Forests | | + 9 980.0000 |
| State Forests Revoked | | - 232.3210 |
| State Forests partially Revoked | | + 495.2938 |
| Areas Released..... | | - 232.3210 |
| Recomputation of Boundaries..... | | + 495.2938 |
| Amalgamation of existing State Forests | 5 | |
| Parts of State Forest taken for Amalgamation with existing State Forest | | - 2 331.4880 |
| Parts of State Forest Amalgamated with existing State Forest..... | | + 2 331.4880 |
| Totals as at June 30, 1984 | 477 | 3 903 397.5549 |
| TIMBER RESERVES | | |
| Figures as at July 1, 1983 | 114 | 571 101.2364 |
| Timber Reserves declared..... | | - 1 300.0000 |
| Timber Reserves declared State Forest | 1 | |
| Timber Reserves declared and added to existing Timber Reserves | | - 9 980.0000 |
| Amalgamation of existing Timber Reserves | | - 418.4000 |
| Timber Reserves declared State Forest and Amalgamated with existing State Forest | 1 | |
| Timber Reserves Revoked | | - 541.6000 |
| Timber Reserves partially Revoked..... | | - 67.6700 |
| Recomputation of Boundaries..... | | |
| Areas released | | |
| Total as at June 30, 1984 | 112 | 558 793.5664 |

APPENDIX 3

NET AREA OF SOFTWOOD PLANTATION ESTABLISHED

APRIL 1, 1983 - MARCH 31 1984

—hectares—

| District | Native Conifers | | | Exotic Conifers | | | | | | Total Conifers | Total 1982-83 | |
|--------------|-----------------|-----------|--------------|-----------------|-----------|----------------|-----------|-----------------------|----------|----------------|---------------|--------------|
| | Hoop Pine | | Total Native | Slash Pine | | Caribbean Pine | | Other Exotic Conifers | | | | Total Exotic |
| | New Areas | Others | | New Areas | Others | New Areas | Others | New Areas | Others | | | |
| Atherton | — | — | — | — | — | 128 | — | — | — | 128 | 128 | 174 |
| Brisbane | 38 | — | 38 | — | — | 163 | — | 7 | 7 | 177 | 215 | 285 |
| Gympie | 68 | — | 68 | 431 | 49 | 569 | 21 | 2 | — | 1 072 | 1 140 | 1 318 |
| Ingham | — | — | — | — | — | 601 | — | — | — | 601 | 601 | 534 |
| Maryborough | — | — | — | 122 | — | 1 358 | — | — | — | 1 480 | 1 480 | 1 931 |
| Monto | 73 | — | 73 | — | — | — | — | — | — | — | 73 | 73 |
| Murgon | 80 | — | 80 | — | — | — | — | — | — | — | 80 | 149 |
| Rockhampton | — | — | — | — | — | 131 | — | — | — | 131 | 131 | 136 |
| Yarraman | 100 | 92 | 192 | 8 | — | — | — | — | — | 8 | 200 | 213 |
| Total | 359 | 92 | 451 | 561 | 49 | 2 950 | 21 | 9 | 7 | 3 597 | 4 048 | 4 813 |

| | | | | | | | | | | | |
|----------------------|------------|-----------|------------|--------------|----------|--------------|------------|----------|-----------|--------------|--------------|
| Total 1982-83 | 439 | 73 | 512 | 1 110 | 4 | 2 847 | 315 | — | 25 | 4 302 | 4 813 |
|----------------------|------------|-----------|------------|--------------|----------|--------------|------------|----------|-----------|--------------|--------------|

APPENDIX 4

*NET AREA OF EFFECTIVE SOFTWOOD PLANTATION

AS AT MARCH 31, 1984

—hectares—

| District | Native Conifers | | | | Exotic Conifers | | | | Total Conifers | Total 1982-83 |
|--------------|-----------------|------------|-----------------------|---------------|-----------------|----------------|-----------------------|----------------|----------------|----------------|
| | Hoop Pine | Bunya Pine | Other Native Conifers | Total Native | Slash Pine | Caribbean Pine | Other Exotic Conifers | Total Exotic | | |
| Atherton | 1 019 | 2 | 108 | 1 129 | 3 | 1 219 | 100 | 1 322 | 2 451 | 2 328 |
| Brisbane | 1 468 | 8 | 4 | 1 480 | 13 695 | 1 917 | 4 235 | 19 847 | 21 327 | 21 223 |
| Gympie | 12 097 | 226 | 36 | 12 359 | 24 684 | 3 520 | 595 | 28 799 | 41 158 | 40 031 |
| Ingham | 4 | — | 1 | 5 | 3 | 4 674 | 107 | 4 784 | 4 789 | 4 319 |
| Maryborough | 1 480 | 3 | 28 | 1 511 | 27 159 | 11 008 | 148 | 38 315 | 39 826 | 38 337 |
| Monto | 2 964 | — | 2 | 2 966 | 22 | 2 | 13 | 37 | 3 003 | 2 931 |
| Murgon | 8 427 | 126 | 1 | 8 554 | — | — | 47 | 47 | 8 601 | 8 520 |
| Rockhampton | 261 | — | 1 | 262 | 1 008 | 5 239 | 66 | 6 313 | 6 575 | 6 444 |
| Yarraman | 14 785 | 123 | 4 | 14 912 | 519 | 401 | 1 659 | 2 579 | 17 491 | 17 366 |
| Total | 42 505 | 488 | 185 | 43 178 | 67 093 | 27 980 | 6 970 | 102 043 | 145 221 | 141 499 |

| | | | | | | | | | |
|----------------------|---------------|------------|------------|---------------|---------------|---------------|--------------|---------------|----------------|
| Total 1982-83 | 42 113 | 480 | 184 | 42 777 | 66 593 | 25 134 | 6 995 | 98 722 | 141 499 |
|----------------------|---------------|------------|------------|---------------|---------------|---------------|--------------|---------------|----------------|

*The net effective area as at 31-3-84 consists of the net effective area as at 31-3-83 plus the net area established during 1983-84 less corrections for write-offs, replantings, boundary recomputations and re-checks.

APPENDIX 5

*NEW AREA OF EFFECTIVE BROADLEAVED PLANTATION
AS AT MARCH 31 1984
—hectares—

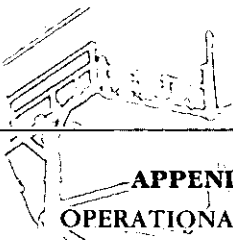
| District | Native Forest Hardwoods | | | | | Other Broadleaf Species | Miscellaneous Species | Total | Total 1982-83 |
|----------------------|------------------------------|----------------|------------|-------------------------------|-------------------------------|-------------------------|-----------------------|--------------|---------------|
| | Rose Gum and Sydney Blue Gum | Grey Iron-bark | Black-butt | Other Native Forest Hardwoods | Total Native Forest Hardwoods | | | | |
| Atherton | 1 | 12 | — | 12 | 25 | 149 | 10 | 184 | 175 |
| Brisbane | 129 | 84 | 92 | 42 | 347 | 3 | 27 | 377 | 380 |
| Gympie | 385 | 107 | 111 | 157 | 760 | 89 | 15 | 864 | 864 |
| Ingham | — | — | — | 1 | 1 | 1 | 6 | 8 | 24 |
| Maryborough | — | — | 48 | 1 | 49 | 1 | 28 | 78 | 78 |
| Murgon | 8 | 6 | 3 | — | 17 | 9 | 1 | 27 | 27 |
| Rockhampton | — | — | — | 1 | 1 | 1 | 3 | 5 | 5 |
| Yarraman | 43 | 127 | — | 4 | 174 | 37 | 30 | 241 | 248 |
| Total | 566 | 336 | 254 | 218 | 1 374 | 290 | 120 | 1 784 | 1 801 |
| Total 1982-83 | 566 | 337 | 255 | 218 | 1 376 | 288 | 137 | 1 801 | |

* Previous figures have been adjusted for write-offs, replantings, boundary recomputations and re-checks.

APPENDIX 6

AREAS OF NATURAL FOREST TREATED 1983-84
—hectares—

| District | Eucalyptus Forests | Cypress Pine Forests | Total | Total 1982-83 |
|----------------------|--------------------|----------------------|--------------|---------------|
| Brisbane..... | 100 | — | 100 | 297 |
| Dalby..... | — | 7 160 | 7 160 | 7 736 |
| Gympie..... | 121 | — | 121 | 32 |
| Maryborough..... | 64 | — | 64 | 106 |
| Monto..... | 110 | — | 110 | 279 |
| Murgon..... | — | — | — | 145 |
| Rockhampton..... | — | — | — | — |
| Yarraman..... | 40 | — | 40 | 10 |
| Total | 435 | 7 160 | 7 595 | 8 605 |
| Total 1982-83 | 869 | 7 736 | 8 605 | |



APPENDIX 7
OPERATIONAL STATISTICS

| 1982-83 | | 1983-84 |
|-----------|--|-----------|
| 4 830 | Softwood Plantation Established (hectares) | 4 048 |
| | Nursery Stock* Departmental Use — | |
| | Hoop Pine — | |
| 726 100 | Container | 402 000 |
| | Caribbean Pine — | |
| 436 300 | Container | 192 700 |
| 3 888 100 | Open Root | 2 980 000 |
| | Slash Pine — | |
| 1 558 500 | Open Root | 686 300 |
| | Caribbean/Slash Hybrid — | |
| 950 | Open Root | 43 370 |
| | Radiata Pine — | |
| 37 200 | Open Root | 16 000 |
| | Loblolly Pine — | |
| 24 200 | Open Root | 35 000 |
| Nil | Container | 1 700 |
| | Eucalyptus — Others — | |
| 102 568 | Container | 42 900 |
| | Nursery Stock, Sales — | |
| 686 800 | Forest Plots | 142 800 |
| 442 300 | Amenity Stock | 458 541 |
| \$245 974 | Total value of seedlings sold | \$280 868 |
| | Seed sold — | |
| \$103 546 | Value | \$135 568 |
| | Weed Control — | |
| 12 816 | Native Pine Plantation (hectares) | 10 663 |
| 11 084 | Exotic Pine Plantation (hectares) | 8 834 |
| | Fertilizing — | |
| 3 955 | New Areas Fertilized (hectares) | 2 799 |
| 192 | Old Areas Refertilized (hectares) | 1 540 |
| | Pruning — | |
| 3 771 | First (hectares) | 3 238 |
| 2 871 | Final (hectares) | 4 832 |
| | Operative Plant as at June 30 — | |
| 465 | Motor Vehicles and Trucks | 486 |
| 20 | Graders | 21 |
| 91 | Rubber-tyred Tractors and Loaders | 79 |
| 41 | Crawler Dozers | 36 |

* All Departmental use information refers to the 12 months period April 1 to March 31.

APPENDIX 8

MILLING TIMBER REMOVALS UNDER HAULAGE CONTRACT

The table shows the quantities hauled and payments made for the haulage of milling timber by contractors to the Department.

—cubic metres gross measure—

| | South Queensland | | | | | | North Queensland | | Total | | |
|---------|------------------|------------------|-------------------------------|---------------------|---------------------|--------------|--------------------|---------------------|--------------------|--------|--------------------|
| | Hoop Pine | Forest Hardwoods | Rainforest Structural Timbers | Prime Cabinet-Woods | Misc. Cabinet-Woods | Total Volume | Payments Made (\$) | Prime Cabinet-Woods | Payments Made (\$) | Volume | Payments Made (\$) |
| 1983-84 | 10 300 | 2 | — | 3 | 10 | 10 315 | 328 854 | — | — | 10 315 | 328 854 |
| 1982-83 | 6 254 | 20 | — | 10 | 52 | 6 356 | 231 523 | 21 | 792 | 6357 | 232 315 |

APPENDIX 9

MILLING TIMBER REMOVALS FROM CROWN LANDS

—cubic metres gross measure—

NATIVE FORESTS

| District | Forest Hardwoods | Rainforest Structural Timbers | Prime Cabinet Woods | Misc. Cabinet Woods | Hoop, Bunya, Kauri, Pines | Cypress Pine | Other Pines | Total | Total 1982-83 |
|--------------|------------------|-------------------------------|---------------------|---------------------|---------------------------|---------------|-------------|----------------|----------------|
| Atherton | 6 960 | 35 825 | 21 318 | 32 390 | 2 824 | — | 82 | 99 399 | 92 272 |
| Brisbane | 20 047 | 147 | 22 | 1 732 | 1 143 | 129 | — | 23 220 | 21 621 |
| Dalby | 17 861 | — | — | — | 839 | 98 006 | — | 116 706 | 88 954 |
| Gympie | 29 519 | 114 | 1 | 207 | 729 | 70 | — | 30 640 | 22 819 |
| Ingham | 1 180 | 6 126 | 6 363 | 6 992 | 106 | — | 20 | 20 787 | 27 631 |
| Maryborough | 35 655 | 222 | 3 | 230 | 14 827 | — | — | 50 937 | 43 165 |
| Monto | 29 989 | 27 | — | 72 | 3 883 | — | — | 33 971 | 29 155 |
| Murgon | 22 396 | 54 | — | 14 | 1 887 | — | — | 24 351 | 32 624 |
| Rockhampton | 34 586 | 3 777 | 77 | 2 122 | 429 | 827 | 3 | 41 821 | 41 204 |
| Yarraman | 6 181 | 238 | — | 122 | 1 210 | — | — | 7 751 | 6 829 |
| Total | 204 374 | 46 530 | 27 784 | 43 881 | 27 877 | 99 032 | 105 | 449 583 | 406 274 |

| | | | | | | | | |
|----------------------|----------------|---------------|---------------|---------------|---------------|---------------|------------|----------------|
| Total 1982-83 | 197 835 | 48 341 | 24 501 | 40 813 | 21 833 | 72 618 | 333 | 406 274 |
|----------------------|----------------|---------------|---------------|---------------|---------------|---------------|------------|----------------|

PLANTATIONS

| District | Native Conifers | Exotic Conifers | Non-Conifers | Total | Total 1982-83 |
|--------------|-----------------|-----------------|--------------|----------------|----------------|
| Atherton | 1 776 | 803 | — | 2 579 | 1 508 |
| Brisbane | — | 47 408 | — | 47 408 | 50 564 |
| Gympie | 27 183 | 24 050 | — | 51 233 | 32 132 |
| Maryborough | 875 | 22 884 | — | 23 759 | 15 936 |
| Monto | 6 763 | — | — | 6 763 | 5 703 |
| Murgon | 3 729 | 225 | — | 3 954 | 6 541 |
| Rockhampton | — | 16 749 | — | 16 749 | 7 410 |
| Yarraman | 47 851 | 4 259 | 108 | 52 218 | 33 171 |
| Total | 88 177 | 116 378 | 108 | 204 663 | 152 965 |

| | | | | |
|----------------------|---------------|---------------|------------|----------------|
| Total 1982-83 | 64 070 | 88 408 | 487 | 152 965 |
|----------------------|---------------|---------------|------------|----------------|

APPENDIX 10

PULPWOOD REMOVALS FROM CROWN LANDS

—cubic metres gross measure—

| Forest | Species | District | | | | | Total | Total 1982-83 |
|----------------------|-----------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|
| | | Brisbane | Gympie | Maryborough | Murgon | Yarraman | | |
| Plantation | Native Conifers | — | — | — | 1 260 | 13 | 1 273 | 3 870 |
| Plantation | Exotic Conifers | 21 910 | 24 120 | 26 243 | — | 4 757 | 77 030 | 50 638 |
| Native Forest | Non Conifers | — | — | — | — | 6 570 | 6 570 | 2 159 |
| Total | | 21 910 | 24 120 | 26 243 | 1 260 | 11 340 | 84 873 | 56 667 |
| Total 1982-83 | | 21 444 | 17 742 | 6 480 | 2 969 | 8 032 | 56 667 | |

APPENDIX 11

MISCELLANEOUS REMOVALS FROM CROWN LANDS

| 1982-83 | Product | 1983-84 | Unit |
|------------|--|-----------|--------------|
| | Miscellaneous Timber Products | | |
| | Sleepers — | | |
| — | 1.2 metres..... | 1 750 | pieces |
| 55 657 | 1.5 metres..... | 42 899 | pieces |
| 2 478 | 2.0 metres..... | 7 702 | pieces |
| 2 589 | 2.1 metres..... | 906 | pieces |
| 278 089 | 2.15 metres..... | 80 327 | pieces |
| — | 2.3 metres..... | 21 | pieces |
| 1 316 | 2.45 metres..... | — | pieces |
| — | 2.6 metres..... | 1 689 | pieces |
| | Transoms, Headstocks | | |
| 1 003 | Crossings, etc..... | 181 | cubic metres |
| 780 | Turnout Timbers..... | 155 | cubic metres |
| 184 | Bridge Timbers..... | — | cubic metres |
| 28 975 | Girders, Corbels, Piles and Sills..... | 25 313 | metres |
| — | Girder Logs..... | 6 | cubic metres |
| 78 089 | Poles..... | 112 111 | metres |
| 173 928 | Fencing Material — Round..... | 327 677 | metres |
| 250 143 | Fencing Material — Split..... | 196 725 | pieces |
| 96 388 | Mining Timber — Round..... | 181 679 | metres |
| 706 | Mining Timber — Sawn..... | 131 | cubic metres |
| 1 873 | Mining Timbers — Others..... | 9 000 | pieces |
| 88 539 | Round Timber..... | 99 880 | metres |
| 234 | Head and Limb Logs..... | 99 | cubic metres |
| 24 | House Blocks..... | 16 | metres |
| 743 | Offcuts..... | — | cubic metres |
| 2 359 | Offcuts..... | 794 | pieces |
| 5 291 | Stakes..... | 485 | pieces |
| 8 | Stumps..... | 9 | cubic metres |
| 19 | Boat Knees..... | — | pieces |
| 10 | Black Wattle..... | — | pieces |
| 288 metres | Chopping Blocks..... | 98 | cubic metres |
| 3 815 | Fuelwood..... | 10 453 | tonnes |
| 33 053 | Landscape Timbers..... | 43 924 | pieces |
| 737 | Landscape Timbers..... | 3 644 | cubic metres |
| 2 bags | Leaf Mould..... | 7 | cubic metres |
| 75 | Charcoal..... | 1 | tonnes |
| 1 | Mulga Wood..... | — | tonnes |
| 4 | Pine Cones..... | 1 | cubic metres |
| — | Pine Tops..... | 1 | pieces |
| 27 | Flitches..... | 31 | cubic metres |
| 120 | Thinnings..... | 2 | tonnes |
| — | Thinnings..... | 1 115 | cubic metres |
| — | Ironbark Bark..... | 35 | tonnes |
| — | Tea Tree Bark..... | 3 | cubic metres |
| 6 | Other Bark..... | 2 | tonnes |
| 1 cubic mt | Fibre..... | 65 | tonnes |
| — | Sandalwood..... | 15 | tonnes |
| — | Shingles..... | 800 | pieces |
| — | Woodchip..... | 24 | tonnes |
| | Non-Timber Products | | |
| 7 | Beehives..... | 29 | number |
| 8 280 | Flora..... | 9 290 | pieces |
| 58 | Lawyer Cane..... | 67 | tonnes |
| 32 | Peat..... | 29 | tonnes |
| — | Turf..... | 180 | cubic metres |
| 2 055 092 | Quarry Material..... | 1 619 617 | cubic metres |
| — | Landscaping Rock..... | 52 | tonnes |
| 63 | Slate..... | 86 | cubic metres |
| — | Granite..... | 30 | bags |

APPENDIX 12

MILLING TIMBER REMOVALS FROM PRIVATE LANDS 1983-84

—cubic metres gross volume—

| Species | Atherton | Brisbane | Dalby | Gympie | Ingham | Mary-borough | Monto | Murgon | Rock-hampton | Yarra-man | Total 1983-84 | Total 1982-83* |
|-------------------------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| Hoop, Bunya and Kauri Pines | 10 | 880 | — | 647 | 14 | 253 | 131 | 2 903 | 102 | 403 | 5 343 | 5 917 |
| Cypress Pine | 8 | 184 | 40 279 | — | — | 58 | — | — | 292 | 113 | 40 934 | 36 388 |
| Other Pines | 16 | 318 | 15 | — | — | 25 | — | — | 85 | 60 | 519 | 875 |
| Forest Hardwoods | 1 039 | 60 218 | 14 025 | 15 830 | 4 936 | 63 831 | 33 312 | 13 972 | 34 431 | 16 086 | 257 707 | 251 671 |
| Rainforest Structural Timbers | 5 926 | 314 | — | 130 | 393 | 141 | — | — | 2 415 | — | 9 319 | 9 870 |
| Prime Cabinet woods | 305 | 34 | — | 21 | 196 | 4 | — | — | 293 | — | 853 | 1 684 |
| Miscellaneous Cabinet woods | 1 725 | 35 | — | 124 | 921 | 4 | — | — | 770 | — | 3 579 | 6 873 |
| Plantations — Native Conifers | 49 | 65 | — | — | — | — | — | — | — | 88 | 202 | 207 |
| Plantations — Exotic Conifers | 29 | 2 141 | — | — | 180 | 2 | — | — | 31 | 5 | 2 388 | 2 803 |
| Imported | — | 1 722 | — | — | — | — | — | — | — | — | 1 722 | 6 961 |
| Total | 9 107 | 65 911 | 54 319 | 16 752 | 6 667 | 64 318 | 33 443 | 16 875 | 38 419 | 16 755 | 322 566 | 323 249 |

N.B. Volumes shown in the above table have been estimated due to incomplete statistics being available at time of compilation.

* Corrected figures.

FOREST PRODUCE AND FOREST INDUSTRIES

PULPWOOD PROCESSED FROM PRIVATE LANDS 1983-84

— cubic metres gross measure —

| Species | Brisbane | Total 1983-84 | Total* 1982-83 |
|------------------------------|---------------|---------------|----------------|
| Forest Hardwoods | 65 284 | 65 284 | 61 964 |
| Plantation — Exotic Conifers | 17 392 | 17 392 | 8 455 |
| Total | 82 676 | 82 676 | 70 419 |

* Corrected Figures.

APPENDIX 13
COMPARATIVE STATEMENT OF RECEIPTS FOR THE YEARS 1982-83 AND 1983-84

| Receipts Previous Year | Note Ref. No | Particulars of Receipts | Estimate | Receipts | Receipts Compared with Estimate | |
|------------------------------|--------------------|--|-------------------|-------------------|---------------------------------|----------------|
| | | | | | Greater | Less |
| \$ | | CONSOLIDATED REVENUE FUND | \$ | \$ | \$ | \$ |
| — | | Receipts for Goods and Services — | | | | |
| | | Plan Printing Services | 105 000 | 56 336 | | 48 664 |
| | | Miscellaneous Receipts — | | | | |
| 67 526 | | Expenditure Recovered — | | | | |
| | | Dongmen Forest Farm Project | 889 500 | 96 049 | 6 549 | |
| | | Other | | | | |
| | | Commonwealth Wages Pause Programme | 35 000 | 35 000 | | |
| 1 482 | | Miscellaneous | — | 1 922 | 1 922 | |
| 5 540 | | Sales of Government Property | 9 000 | 12 850 | 3 850 | |
| 28 900 | | Other — | | | | |
| | | Commonwealth Employment Programme | — | 16 040 | 16 040 | |
| | | Wages Pause Programme | 3 400 | 3 400 | | |
| | | Miscellaneous | 700 | 13 515 | 12 815 | |
| 103 448 | | Total — Consolidated Revenue Fund | 242 600 | 235 112 | 41 176 | 48 664 |
| \$ | | LOAN FUND | | | | |
| | | Miscellaneous Receipts — | | | | |
| 296 453 | | Sale of Vehicles and Plant | 484 000 | 868 393 | 384 393 | |
| 9 096 | | Excess Plant Hire | 43 000 | 440 367 | 397 367 | |
| 3 177 | | Miscellaneous | — | 98 238 | 98 238 | |
| | | Intra Public Accounts Unrequited Transfers | | | | |
| | | Amount provided from Trust and Special Funds | | | | |
| 35 560 | | Special Projects Funds | 59 440 | 59 440 | | |
| 344 286 | 1. | Total Loan Fund | 586 440 | 1 466 438 | 879 998 | |
| \$ | | FORESTRY AND LUMBERING FUND | | | | |
| | | Receipts for Goods and Services— | | | | |
| 11 490 445 | | Timber Revenue | 12 100 000 | 12 919 060 | 819 060 | |
| | | Miscellaneous Receipts — | | | | |
| 5 214 032 | | Plant Hire | 5 757 000 | 5 294 636 | | 462 364 |
| 645 000 | | Dongmen Project | 698 000 | 666 000 | | 32 000 |
| | | Gympie Fuelwood Project | — | 57 200 | 57 200 | |
| 264 796 | | T.R.A.D.A.C. | 290 000 | 289 219 | | 781 |
| 845 843 | | Miscellaneous | 862 000 | 1 005 357 | 143 357 | |
| 4 500 | | Aboriginal Advancement Grant | — | — | | |
| 53 269 | | Other | — | — | | |
| | | Intra Public Accounts Unrequited Transfers | | | | |
| | | Amount Provided from Consolidated Revenue Fund | | | | |
| 39 876 | | Natural Disasters | 300 000 | 312 144 | 12 144 | |
| 18 557 761 | 2. | Total Forestry and Lumbering Fund | 20 007 000 | 20 543 616 | 1 031 761 | 495 145 |
| \$ | | FORESTRY DEVELOPMENT FUND | | | | |
| | | Financing Transactions — | | | | |
| 17 115 000 | | Loan Fund | 19 650 000 | 19 846 000 | 196 000 | |
| | | Special Projects Fund — | | | | |
| 5 000 000 | | Advances | 4 700 000 | 4 700 000 | | |
| 2 290 554 | | Wages Pause Programme | 582 146 | 582 146 | | |
| 261 337 | | Softwood Agreement Act | — | — | | |
| | | Miscellaneous Receipts — | | | | |
| 110 500 | | Aboriginal Advancement Grant | — | — | | |
| 64 015 | | Other | — | 83 836 | 83 836 | |
| | | Intra Public Accounts Unrequited Transfers | | | | |
| | | Amount provided from Trust and Special Funds | | | | |
| | | Commonwealth Employment Programme | — | 234 776 | 234 776 | |
| 56 945 | | Special Projects Fund | 193 055 | 343 055 | 150 000 | |
| 24 898 351 | | Total Forestry Development Fund | 25 125 201 | 25 789 813 | 664 612 | |

Note 1. Receipts have exceeded estimate primarily because—

(a) in the 1982-83 and 1983-84 financial years additional expenditure was incurred specifically to comply with Cabinet Policy (Cabinet Decision No. 37074 of 16 February 1983) in relation to the replacement of vehicles. Additional revenue relating to the sale of vehicles replaced has been greater than anticipated this financial year.

(b) of increased excess plant hire receipts which resulted from plant maintenance costs being lower than anticipated.

Note 2. Receipts this year have exceeded estimate primarily due to increased demand for Crown Timber as well as increased charges taking effect during the year.

Statement of the transactions of the Forestry Development Fund of the Trust and Special Funds administered by the Department of Forestry during the year ended 30 June 1984.

| Previous Year 1982-83 | | 1983-84 |
|-----------------------------|---|----------------|
| \$ | | \$ |
| 35 | Balance of Fund at 1 July | 63 102 |
| 24 898 351 | <i>Add</i> Receipts (as per statement appended to the Departmental Appropriation Account) | 25 789 813 |
| 24 835 284 | <i>Less</i> Expenditure (as per Departmental Appropriation Account) | 25 601 422 |
| Nil | Net increase or decrease in investments | Nil |
| <u>63 102</u> | Balance of the Fund at 30 June | <u>251 493</u> |

Statement of the transactions of the Forestry and Lumbering Fund of the Trust and Special Funds administered by the Department of Forestry during the year ended 30 June 1984.

| Previous Year 1982-83 | | 1983-84 |
|-----------------------------|---|----------------|
| \$ | | \$ |
| 152 553 | Balance of Fund at 1 July | 123 025 |
| 18 557 761 | <i>Add</i> Receipts (as per statement appended to Department Appropriation Account) | 20 543 616 |
| 18 587 289 | <i>Less</i> Expenditure (as per Departmental Appropriation Account) | 19 938 552 |
| Nil | Net increase or decrease in investments | Nil |
| <u>123 025</u> | Balance of the Fund at 30 June | <u>728 089</u> |

APPENDIX 14

DEPARTMENTAL APPROPRIATION ACCOUNT FOR 1983-84

| 1982-83 Expenditure | Note Ref. No. | Headings of Expenditure | Appropriations | Subdivisional Transfers | Appropriations as adjusted by Subdivisional Transfers | Total Expenditure | Unforeseen Expenditure | Lapsed Appropriation |
|---------------------|---------------|--|-------------------|-------------------------|---|-------------------|------------------------|----------------------|
| \$ | | CONSOLIDATED REVENUE FUND | \$ | \$ | \$ | \$ | \$ | \$ |
| 12 404 889 | 1 | Supply Services and Unforeseen Expenditure — | | | | | | |
| 35 838 | | Salaries | 12 563 000 | — | 12 563 000 | 13 276 398 | 713 399 | — |
| 98 673 | | Termite Eradication | 40 000 | -2 000 | 38 000 | 37 916 | — | 84 |
| 1 783 545 | | Fares, Printing, Stores, &c. | 133 800 | -10 000 | 123 800 | 123 088 | — | 712 |
| 373 585 | | Travelling Expenses and Incidentals | 2 011 800 | +12 000 | 2 023 800 | 2 177 287 | 153 487 | — |
| 217 103 | | Recreation Facilities — Maintenance | 378 800 | — | 378 800 | 383 879 | 5 079 | — |
| | | Cash Equivalent of Long Service Leave | 140 000 | — | 140 000 | 172 332 | 32 333 | — |
| 14 913 633 | | Total — Consolidated Revenue Fund | 15 267 400 | — | 15 267 400 | 16 170 900 | 904 298 | 796 |
| | | LOAN FUND | | | | | | |
| 123 150 | 2 | Supply Services and Unforeseen Expenditure — | | | | | | |
| 17 115 000 | | Forestry — | | | | | | |
| | | Recreation Facilities — Construction | 109 440 | — | 109 440 | 213 412 | 103 973 | — |
| | | Amount credited to Forestry Development Fund | 19 650 000 | — | 19 650 000 | 19 846 000 | 196 000 | — |
| 17 238 150 | | Total Loan Fund | 19 759 440 | — | 19 759 440 | 20 059 412 | 299 973 | — |
| | | TRUST AND SPECIAL FUNDS | | | | | | |
| 6 020 038 | 3 | Supply Services and Unforeseen Expenditure — | | | | | | |
| 1 660 687 | | Forestry and Lumbering Fund — | | | | | | |
| 3 764 839 | | Interest and Redemption on Loans | 5 500 000 | — | 5 500 000 | 5 950 000 | 450 000 | — |
| 1 031 602 | | Contract Timber Supplies | 1 850 000 | — | 1 850 000 | 1 730 637 | — | 119 363 |
| 4 691 719 | | Marketing | 4 346 000 | -108 000 | 4 238 000 | 4 051 696 | — | 186 304 |
| 479 000 | | Roads — Maintenance and Subsidies | 1 597 000 | +69 000 | 1 666 000 | 1 665 949 | — | 51 |
| 645 133 | | Maintenance of Plant | 5 177 000 | — | 5 177 000 | 4 721 135 | — | 455 865 |
| 294 271 | | Maintenance of Capital Improvements | 538 000 | +39 000 | 577 000 | 548 289 | — | 28 711 |
| — | | Dongmen Project | 698 002 | — | 698 002 | 665 823 | — | 32 179 |
| — | | Amounts transferred to TRADAC | 267 200 | — | 267 200 | 273 768 | 6 568 | — |
| — | | Newsprint Trial | — | — | — | 279 429 | 279 430 | — |
| — | | Gympie Fuelwood Project | — | — | — | 51 826 | 51 826 | — |
| 18 587 289 | | Total — Trust and Special Funds | 19 973 202 | — | 19 973 202 | 19 938 552 | 787 824 | 822 473 |
| 20 600 617 | 5 | Forestry Development Fund — | | | | | | |
| 741 408 | | Reforestation | 20 988 303 | +70 000 | 21 058 303 | 21 313 918 | 255 616 | — |
| 1 800 075 | | Land Acquisition | 800 000 | — | 800 000 | 797 560 | — | 2440 |
| 1 693 184 | | Purchase of Plant | 1 800 000 | -70 000 | 1 730 000 | 1 729 979 | — | 21 |
| 24 835 284 | | Roads Construction | 1 600 000 | — | 1 600 000 | 1 759 965 | 159 965 | — |
| 43 422 573 | | Total — Forestry Development Fund | 25 188 303 | — | 25 188 303 | 25 601 422 | 415 581 | 2 461 |
| 75 574 356 | | Total — All Funds | 80 188 345 | — | 80 188 345 | 81 770 286 | 2 407 676 | 825 730 |

APPENDICES—continued

NOTES TO APPROPRIATION ACCOUNT

Explanation of the causes of variation between expenditure and appropriation

| Note Ref. No. | |
|------------------|--|
| 1. | This appropriation is based on known resignations and retirements. Deaths and unexpected resignations have resulted in excess expenditure. |
| 2. | Additional expenditure was incurred on the urgent upgrading of Recreation Facilities in State Forests because existing facilities were not satisfactorily coping with increasing public usage. |
| 3. | Expenditure of \$279 429 was incurred as part of a newsprint production and marketing trial for a Pulp and Paper Mill Project. |
| 4. | Expenditure of \$51 826 was incurred on a Fuelwood Species Trial which was conducted as a joint project between the Department of Forestry and C.S.I.R.O. This project was funded by the Australian Centre for International Agricultural Research with a view to assisting developing countries in the areas of fuelwood, agroforestry and allied purposes. |
| 5. | Additional expenditure of \$159 965 was incurred primarily to upgrade and construct roads to facilitate the efficient extraction of final crop timbers and also to allow the 1985 planting programme to proceed. |

Other Notes

UNEXPECTED ADVANCES TO AGENCY DEPARTMENTS

Unexpected balance of advances made on account of inter-departmental agency services at 30th June, 1984 was \$14 528.

Losses

| | | |
|---|---------------|----------------------|
| Losses of or deficiencies in public moneys or other moneys— | \$ | |
| Losses by stealing or any other offence (1 case) | 70 | |
| Debts written off (2 cases)..... | 10 588 | |
| Other Losses (3 cases) (recoveries amounted to \$5 672.15)..... | <u>14 294</u> | \$24 952 |
| Losses of or deficiencies in public property or other property— | \$ | |
| Losses by stealing or any other offence (13 cases) | <u>12 055</u> | \$12 055 |
| <i>Gifts Made</i> (1 case)..... | | \$1 440 |
| <i>Loan Indebtedness</i> | | <u>\$273 894 886</u> |

CERTIFICATE OF ACCOUNTABLE OFFICER

I certify that, in my opinion—

- (a) the foregoing appropriation account and appended notes are in accordance with the accounts and records of the Department and have been properly drawn up to show a true and fair view of transactions for the financial year ended 30th June, 1984 on a basis consistent with that applied in respect of the financial year last preceding;
- (b) expenditure indicated in the account has been correctly charged in accordance with section 27 of the *Financial Administration and Audit Act* 1977-1981 and is fairly set out to show the disposal of moneys issued out of the public accounts by the Treasurer for the use of the Department.

J. A. J. SMART,
Conservator of Forests.

September, 1984

CERTIFICATE OF THE AUDITOR-GENERAL

I have examined the accounts of the Department of Forestry for the financial year ended 30th June, 1984 as required by the *Financial Administration and Audit Act* 1977-1981 and certify as follows—

- (i) I have received all information and explanations which I have required;
- (ii) sums issued out of the public accounts by the Treasurer in pursuance of sections 30 and 31 of the aforementioned Act for the use of the Department have, in my opinion, been properly accounted for; and
- (iii) the foregoing departmental appropriation account and notes thereto are in agreement with the accounts and records of the Department required by law to be kept and, in my opinion, have been properly drawn up so as to present a true and fair view of transactions for the financial year ended 30th June, 1984 on a basis consistent with that applied in respect of the financial year last preceding.

P. N. CRAVEN,
Auditor-General of Queensland.

September, 1984

APPENDIX 15

STAFF DISTRIBUTION JUNE 30, 1984

| | Head Office | District | Total 30-6-84 | Total 30-6-83 |
|---|-------------|--------------|---------------|---------------|
| *Salaried Officers | | | | |
| Graduate | 95 | 65 | 160 | 160 |
| Technical | 76 | 36 | 112 | 112 |
| Field Supervisory | 6 | 101 | 107 | 107 |
| Administrative/Clerical | 133 | 124 | 257 | 257 |
| Miscellaneous | 8 | 1 | 9 | 9 |
| Sub-Total | 318 | 327 | 645 | 645 |
| Wages Employees — | | | | |
| Reforestation | 10 | 756 | 766 | 885 |
| Marketing and Resources | 18 | 118 | 136 | 135 |
| Road Construction and Maintenance | — | 75 | 75 | 47 |
| Maintenance of Plant and Capital Improvements | 9 | 100 | 109 | 110 |
| Recreation Facilities | | | | |
| Construction and Maintenance | — | 14 | 14 | 28 |
| Miscellaneous | 1 | 11 | 12 | 10 |
| Sub-Total | 38 | 1 074 | 1 112 | 1 215 |
| Total 1983-84 | 356 | 1 401 | 1 757 | 1 860 |
| Total 1982-83 | 361 | 1 499 | 1 860 | |

* Figures in this category are based on Public Service Board Establishment and not on actual staff numbers as in previous years.

APPENDIX 16

PUBLICATIONS — GENERAL

Information Sheets

- 21. Queensland's Forest Resources
- 22. Dry Sclerophyll (Open) Forest
- 23. Wet Sclerophyll (Tall Open) Forest
- 24. Hoop Pine
- 25. Fertilizing Trees
- 26. Brigalow
- 27. Trees on Roads

"WoodWorks" Informers

- Saws
- Axes and Adzes

"WoodWorks" Work Sheets

- General — Level 2
- Use of Timber — Level 4
- General — Level 5
- Tools — Level 5
- Building Materials — Level 5
- Washing Machine — Level 5
- Timber — Level 6
- Timber Working — Level 7
- Transport Bullock Team — Level 7

Brochures

- WoodWorks — full colour brochure
- Gympie Centre — full colour brochure
- Fraser Island Permit Code

Periodicals

- "Between the Leaves" (Departmental Newsletter)

Stickers

- WoodWorks — The Forestry and Timber Museum

PUBLICATIONS — RESEARCH

Research Papers

- No. 14 DALE, J. A. (1983). Management studies in the escarpment rainforests of south east Queensland. 90pp.
- No. 15 FRANCIS, P. J. and BACON, G. J. (1983). Ripping trials in coastal south Queensland *Pinus* plantations. 16pp.

Technical Notes

- No. 10 LEWTY, M. J. and FRODSHAM, T. M. (1983). Post emergence weed control efficacy of three herbicides in a *Pinus* nursery. 3pp.
- No. 11 LEWTY, M. J. and FRODSHAM, T. M. (1983). Post emergence weed control efficacy of Caragard in a *Pinus* nursery. 4pp.
- No. 12 GORDON, P. (1984). Height/diameter relationships for slash pine in south east Queensland. 10pp.

Technical Papers

- No. 33 HARVEY, A. M. (1983). Growth, volume and value production of patula pine in a free growth spacing trial. 40pp.
- No. 36 VANCLAY, J. K. and SHEPHERD, P. J. (1983). Compendium of volume equations for plantation species used by the Queensland Department of Forestry. 21pp.
- No. 37 GARTHE, R. J. (1983). Pole production from Gympie messmate (*Eucalyptus cloeziana* F. Muell) plantations in south east Queensland. 11pp.

Advisory Leaflets

- No. 20 DE BAAR, M. (1983). The castor oil looper. 2pp.
- No. 21 NORTON, J. (1983). The disposal of wastes from timber treatment systems. 3pp.

Unpublished Reports

- No. 11 GARTHE, R. J. (1983). Establishment of *E. pilularis* Sm. on the sandmined areas of Fraser Island. 14pp
- No. 12 FRANCIS, P. J. (1983). Growth of exotic pine on Wongi State Forest. 26pp.
- No. 13 WEATHERHEAD, T. F. and GREVE, D. M. (1983). Building practice and maintenance in north Queensland. 4pp.

Timber Notes

- No. 7 McDONALD, G. (1983). The Timber Users' Protection Act. 2pp.
- No. 9 YULE, R. A. and WYLIE, F. R. (1983). Subterranean termites in Queensland.
- No. 10 YULE, R. A. and WYLIE, F. R. (1983). Treating subterranean termite attacks in buildings. 4pp.
- No. 11 DE BARR, M. and HOCKEY, M. J. (1983). Ants in timber and buildings in Queensland. 2pp.
- No. 12 McDONALD, G. (1983). Use of *Lyctus* susceptible timber in landscaping. 2pp.
- No. 13 LEIGHTLEY, L. E. (1983). Safety and the use of CCA-treated timber. 2pp.

PUBLICATIONS — MAPS

| Reference Map Name | Edition | District | Scale 1:50 000 | | |
|-------------------------|---------|-----------------|----------------|-------------------|-----------------------------|
| Scale 1:5000 | | | 8159-1 | Rollingstone | 2 Ingham |
| Daisy Hill | 1 | Brisbane | 8159-4 | Paluma | 2 Ingham |
| Scale 1:10000 | | | 8746-1 | Lynd Range | 1 Dalby |
| 8064-341 Myola | 1 | Atherton | 8747-3 | Surprise Mountain | 1 Dalby |
| 8064-432 Mt. Formantine | 1 | Atherton | 8944-1 | Columboola | 1 Dalby |
| 8064-433 Dulanban | 1 | Atherton | 8946-2 | Kennedy Peak | 1 Dalby |
| Scale 1:15000 | | | 9042-1 | Dunmore | 2 Dalby |
| Amiens | 1 | Brisbane | 9042-2 | Killwara | 2 Dalby |
| Benarkin Sh 1 | 1 | Yarraman | 9042-3 | Boondandilla | 2 Dalby |
| Benarkin Sh 2 | 1 | Yarraman | 9044-1 | Fairyland | 1 Dalby |
| Benarkin Sh 3 | 1 | Yarraman | 9044-4 | Chinchilla | 1 Dalby |
| Benarkin Sh 4 | 1 | Yarraman | 9046-2 | Hawkwood | 1 Monto |
| Brooyar | 5 | Gympie | 9046-3 | Auburn | 1 Dalby & Monto |
| Elgin Vale | 3 | Murgon | 9142-4 | Cecil Plains | 2 Dalby |
| Elliott River Sh 1 | 3 | Maryborough | 9144-4 | Jingi Jingi | 1 Dalby |
| Elliott River Sh 2 | 3 | Maryborough | 9146-3 | Brovinia | 1 Monto |
| Elliott River Sh 3 | 3 | Maryborough | 9344-1 | Jimna | 4 Murgon, Yarraman & Gympie |
| Esk | 3 | Yarraman | 9344-3 | Blackbutt | 3 Yarraman |
| Gallangowan (E&W) | 1 | Murgon | 9344-4 | Nanango | 3 Yarraman |
| Gambubal | 2 | Brisbane | 9345-2 | Manumbar | 3 Gympie and Murgon |
| Pechey | 2 | Yarraman | 9347-3 | Dallarnil | 2 Maryborough |
| Tewantin | 2 | Gympie | 9347-4 | Cordalba | 2 Maryborough |
| Toolara Sh 5 | 3 | Gympie | 9443-4 | Somerset Dam | 3 Brisbane & Yarraman |
| Toolara Sh 12 | 5 | Gympie | 9444-2 | Woodford | 4 Brisbane |
| Wongi Sh 5 | 1 | Maryborough | 9445-4 | Gympie | 3 Gympie |
| Wongi Sh 6 | 1 | Maryborough | 9446-1 | Boonooroo | 3 Maryborough |
| Yurol | 2 | Gympie | 9446-2 | Kauri Creek | 4 Maryborough & Gympie |
| Scale 1:25 000 | | | 9546-3 | Wide Bay | 3 Maryborough & Gympie |
| 7964-22 Mareeba | 1 | Atherton | | | |
| 8062-14 Johnstone Gorge | 1 | Atherton | | | |
| 8062-33 Tully River | 2 | Atherton | | | |
| 8064-32 Redlynch | 1 | Atherton | | | |
| 8064-44 Yule Point | 1 | Atherton | | | |
| 8161-34 Cardwell | 2 | Ingham | | | |
| 8655-44 Peases Lookout | 1 | Rockhampton | | | |
| 9444-41 Kenilworth | 1 | Gympie | | | |
| 9444-42 Connondale | 1 | Gympie | | | |
| 9444-43 Mount Langley | 1 | Gympie & Murgon | | | |
| 9444-44 Borumba Dam | 1 | Gympie & Murgon | | | |
| D'aguilar | 2 | Brisbane | | | |
| Mt. Mee | 2 | Brisbane | | | |
| Upper Kandanga | 2 | Gympie | | | |

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