

SUSTAINING THE FOREST

SOCIAL, ENVIRONMENTAL AND ECONOMIC (SEEING) REPORT 2003/04



Our commitment to SUSTAINABILITY



In July, the State Government created the new Department of Primary Industries, which brought State Forests together with the former Departments of Agriculture, Fisheries and Mineral Resources.

Combined, these industries provide more than 300,000 jobs, contribute \$20 billion to the State economy, and

generate \$10 billion in exports.

As Minister for Primary Industries, my goal is to create a framework that allows each of these industries to build a profitable and sustainable future.

In fact, without economic prosperity and environmental sustainability, many of our regional communities would crumble.

To keep the forestry industry thriving, the State Government has announced a series of new 20-year supply agreements with a range of commercial partners. These provide industry with a long-term security and also underpin development that our regional areas rely on.

Forests NSW invests heavily in bush fire control, to help protect our valuable timber resource. We also remain committed to reforestation, so industry has long-term access to supply and the confidence to underwrite future investment.

Forests NSW is also recognised as a world leader in the development of markets focusing on the use of forests to deliver carbon sequestration, biodiversity and salinity benefits.

With the creation of the Department of Primary Industries comes an even greater emphasis on cutting edge research. As a result, we have established the first Centre of Excellence for Forestry in NSW, located in Grafton.

There can be no question that any future erosion of our forestry base will have wide-reaching impacts, including increased imports, the potential loss of jobs and reduced security for industry and regional communities.

I look forward to working with the team at Forests NSW and all of our industry partners to help deliver the framework and programs needed to keep this important industry thriving.

Ian Macdonald, MLC
NSW Minister for Primary Industries



Forests NSW primary objective is providing a sustainable supply of timber. However, our forests are managed for a range of social, environmental and economic values.

The community value forests in different ways. It's our role to balance and integrate these collective ideals into our

management. While it isn't always possible to incorporate all views, we need to be guided by public and stakeholder participation, openness to ideas, management transparency and good science.

This report conveys what sustainability means - the breadth of forest values. It's about employment, timber products, cultural heritage, recreation and native plants and animals.

The 2002/03 Seeing Report was acknowledged as a leading example of Government sustainability reporting. While a great achievement, our priority is not to be the best sustainability reporter but to be the best sustainable forest manager.

We've had several major achievements over the last year including a vastly improved safety record; continually high compliance performance; a collaboratively developed recreation strategy and signing of north coast wood supply agreements.

There are also challenges. With the transfer of more than 60,000 hectares of State forest into the national park system in 2002, meeting our commitments with reduced resources will be challenging. However, our approach to forest management makes us confident that all forest values will be maintained.

The cover of this 'new look' Seeing Report reinforces what we're about - managing forests into the future and for the future. It's about delivering benefits to the community while maintaining ecological processes and biodiversity. In essence, we are actively creating the forests of tomorrow.

Peter Duncan
Chief Executive

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WHAT'S IT ALL ABOUT?

Sustainability is the key driver of our business and the way we manage forests. Ensuring our operations provide timber now and into the future, as well as protecting the environment and managing for people and communities, are principles that underpin our business.

As a Government enterprise, Forests NSW is accountable to the people of New South Wales for managing State forests in a way that meets these objectives. This report demonstrates how we are performing.

Forests NSW has been producing a report on its social, environmental and economic performance for seven years. Since 1998, it has evolved from having an environmental focus to one that examines performance in a range of areas of interest or concern to our diverse stakeholders.

WHAT HAS CHANGED THIS YEAR?

The evolution of the Seeing Report mirrors developments internationally towards corporate bodies reporting on their sustainability. This approach examines the outcomes of decision-making in terms of social, environmental and economic results as well as financial performance.

This year we have adopted a new approach to reporting by producing a shorter report that focuses on the key issues – good and bad – arising during 2003–2004.

The new look report continues our reporting on the three key areas of social, environmental and economic performance. For the first time, we have also included a sustainability section that brings together these three performance areas with our financial performance, providing a view to the future.

We are reporting against the indicators used in previous reports, with several of these combined to provide a more holistic picture. The data for these indicators are provided in the Appendices (starting on page 14).

- Social 🤝 – building partnerships and generating economic and social benefits within the community, especially for rural and regional communities; developing and valuing staff (Appendices 1–9).
- Environmental 🌿 – ecologically sustainable management of native and planted forests to protect and enhance environmental and conservation values and to help meet the demands of future markets for environmental services (Appendices 10–20).
- Economic 💰 – ensuring an adequate return to the Government and community from the marketing of a range of values from native forests and plantations; developing innovative products, services and mechanisms to facilitate investment in new planted forests and environmental values of forests (Appendices 21–25).
- Sustainability – managing State forests for the long-term and retaining opportunities for future generations to meet their needs and expectations, while providing for the present.

An on-line version of the report is available on Forests NSW website (www.forest.nsw.gov.au) with the site also providing information on governance, policy framework, the regulation of forestry activities, codes of practice and full details of Forests NSW reporting framework. An assessment of how Forests NSW reporting framework compares to the Global Reporting Initiative and data, definitions and descriptions for all forest values and indicators are also available on-line.

HOW DO YOU KNOW IT'S REAL?

To ensure that there is confidence in the information provided in this report, Forests NSW has undertaken to have the document verified by an external, independent body every two years. The next external verification will take place in 2005. Details of previous verifications are also on-line at www.forest.nsw.gov.au

*“Managing forests into the future and for the future . . .
creating the forests of tomorrow.”*





WHO IS FORESTS NSW?

Forests NSW is a Public Trading Enterprise (PTE) responsible for managing 2.8 million hectares of native and plantation forest on behalf of the people of New South Wales. Forests NSW is the trading name of the Forestry Commission of NSW, established under the Forestry Act 1916, with the primary objective of providing a sustainable supply of timber to the community, in conjunction with a range of environmental, social and economic values for the long-term.

Specifically, the objectives for Forests NSW are to:

- conserve and utilise timber;
- provide adequate supplies of timber;
- preserve and improve the soil resources and water catchment capabilities;
- encourage the use of timber;
- promote and encourage recreation;
- conserve native flora and fauna; and
- provide natural resource environmental services.

In mid 2004, Forests NSW became a Division of the newly created NSW Department of Primary Industries, which includes the former departments of Fisheries, Agriculture and Mineral Resources. The Hon. Ian Macdonald, MLC is Minister for Primary Industries with Mr Barry Buffier Director-General of the new department and Commissioner of Forests. Within this structure, and as a PTE, Forests NSW is also responsible for delivering a financial return to the State of NSW through its investment in State forests and other forest resources.

Forests NSW Annual Report provides full details of the organisation's financial performance. Forests NSW Research and Development Division also report annually. These reports are also available on-line at www.forest.nsw.gov.au

THE BUSINESS

Forests NSW offices and facilities are distributed across NSW. There are ten main regional centres as well as a head office and research centre in Sydney. A full list of Forests NSW offices is provided in our Annual Report.

Growing and marketing wood products from the State's native forests and plantations, in accordance with principles for ecologically sustainable forest management, remains the primary business of Forests NSW.

Approximately 4.5 million m³ of sawlogs and pulpwood are harvested from State forest each year. Sales of these products generate in excess of \$240 million in revenue for the organisation and support and develop viable and economically sustainable timber industries in rural communities.

In addition, Forests NSW is responsible for developing new business services related to our primary role as a forest manager such as private forestry and plantation management services, carbon sinks and carbon trading, salinity mitigation, eco-tourism, biodiversity, land repair and mine site rehabilitation.

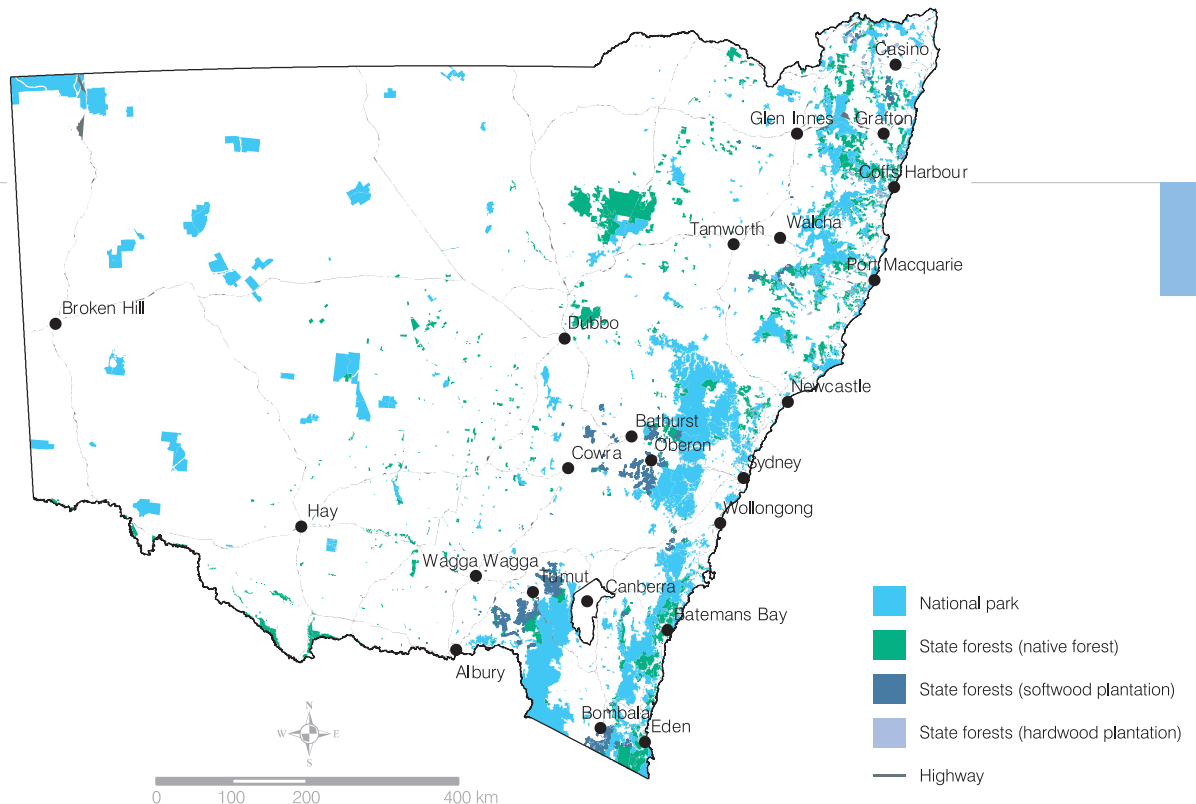
HOW DOES FORESTS NSW FIT IN NATIONALLY?

Forests are one of Australia's major natural assets, covering 164 million hectares or 21% of the nation's land area. In terms of Australia's native forests, 13% are formally protected in reserves (including almost 70% of old growth forests in Regional Forest Agreement areas), 70% are privately managed and 7% are available for timber production in multiple-use forests (DAFF, 2003).

On average, 9.1 million m³ of timber were removed annually from public and private native forests for the 5 years to 2000 –1 and the "the annual removal of wood from public native forest is estimated to be well within the sustainable level" (DAFF, 2003). The forest industry makes a contribution to the Australian economy, with the value of wood and wood products representing around 1% of the nation's Gross Domestic Product (GDP). In addition, the forestry sector directly employs around 1% of the nation's workforce, with significant flow-on effects in related employment fields and for many regional communities forestry is the major source of income.

While the domestic supply of wood and wood products has increased over the past decade (primarily due to the maturing of the softwood plantation resource), the annual per capita consumption of wood products has fallen to below 1m³ per person due to population growth and some substitution away from timber products in the housing sector (DAFF, 2003).

STATE FORESTS AND NATIONAL PARKS IN NEW SOUTH WALES

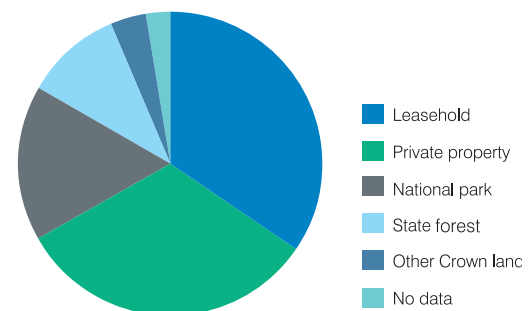


AUSTRALIAN NATIONAL FOREST STATISTICS

| | |
|---|------------------|
| Total land area (Australia) | 768 million ha |
| Total population (Australia) | 20 million |
| Forests as a percentage of land area | 21% |
| Total forest area | 164.3 million ha |
| Native forest area | 162.7 million ha |
| Plantation forest area | 1.6 million ha |
| New area of plantation planted (average 1998–2002) | 87,000 ha/year |
| Forest area in nature conservation reserves | 21.5 million ha |
| Area of native forest harvested annually | <1% |
| Total carbon in forests | 10,500 Mt |
| Total exports of wood products (Major exports to Japan, New Zealand, China and Korea) | \$2.1 billion |
| Total imports of wood products (Major imports from New Zealand, United States, Indonesia and Finland) | \$4 billion |
| Number of people employed in forest product industries | >78,400 |
| Value of turnover in forest products industries | \$15 billion |
| Forestry contribution to GDP | 1% |

* Source: DAFF, 2004

Tenure as a percentage of total forest and woodland in NSW





SOCIAL

Building partnerships and generating economic and social benefits within the community, especially for rural and regional communities. Developing and valuing our staff.

| FOREST VALUE | INDICATOR | PAGE | | RESULTS | PERFORMANCE |
|--------------------|---------------------------------------|------|----|--|-------------|
| Community benefits | Social responsibility | 14 | | 13 volunteer programs with 194 participants | ↑ |
| | Public participation | 14 | \$ | 1,018 regional community forums attended | ↓ |
| | Recreation and tourism | 14 | \$ | 277 recreational facilities and 275 formal events | ↓ |
| | Research and education | 15 | \$ | \$9 million on research and \$4.9 million on education | ↑ |
| | Regional employment | 7 | \$ | 7,238 people employed 15,000 jobs generated | ↑ |
| | Other forest products | 16 | \$ | Continued sustainable provision of products | ↔ |
| Staff | Quality of management | 6,16 | \$ | 1,087 people directly employed by Forests NSW | ↓ |
| | Management and training | 17 | \$ | Over \$5.34 million on staff management and training Almost 1,700 staff and contractors trained | ↑ ↔ |
| | Health and safety | 17 | \$ | Lost Time Incident rate of 13.9 | ↑ |
| Cultural heritage | Protection of cultural heritage sites | 18 | | 213 new sites of cultural significance protected | ↑ |
| | Cultural heritage training | 18 | | 100 Forests NSW staff and forest workers trained in cultural heritage awareness | ↔ |

SAFETY AND EQUAL EMPLOYMENT OPPORTUNITY (EEO)

Forests NSW has undertaken an extensive review of its safety policy, procedures and training for employees and contractors. The results have seen dramatic improvement in performance with a significant decrease in the number of safety incidents during 2003/04.

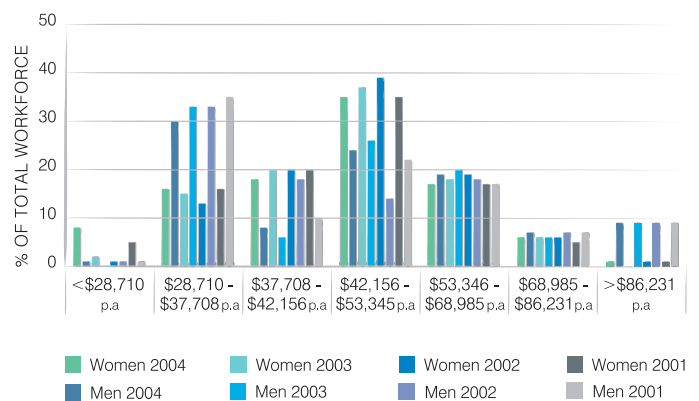
Representation of EEO groups within Forests NSW continues to meet our commitments, with over 2.2% of the workforce being of Aboriginal or Torres Strait Islanders descent. 19.7 % of the workforce are women and are well represented in middle management. Women continue to show low levels of representation at the senior management level (see right).

COLLABORATIVE RECREATION STRATEGY DEVELOPED

State forests provide the opportunity to participate in an extraordinarily wide range of nature-based recreational, sporting and tourism pursuits. More than 70 known activities are undertaken in State forests, the most popular including four-wheel driving, trailbike riding and mountainbiking (see pie chart right).

During 2003, Forests NSW recognised the need to develop a sustainable recreation, sport, tourism and training policy and strategic framework and that collaboration with the peak user groups, as well relevant government departments, was an essential part of this process. Over 200 people joined workshops

Equal employment opportunities



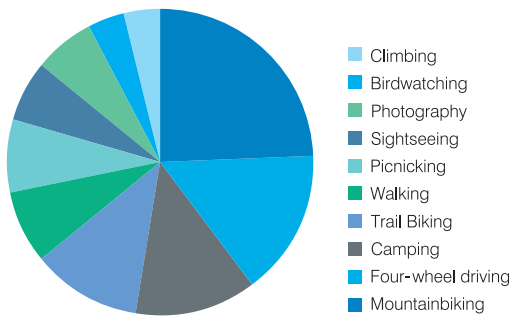
in Sydney and across the Hunter and central coast to discuss issues and develop joint solutions.

Major issues identified include:

- Maintaining access to forests for recreation, sport, tourism and training
- Appropriate, safe and responsible use of forests
- Understanding the social, environmental and economic benefits
- Improving the administration and management of State forests for recreation, sport, tourism and training.

For further information take a look at www.forest.nsw.gov.au/policy/forestry/recreation/

Recreation activities undertaken in State forests



ABORIGINAL CO-MANAGEMENT AGREEMENT SIGNED

State forests near Walcha will be used for Aboriginal cultural revival and cultural teaching following the signing of a unique agreement between Forests NSW and the Anaiwan traditional owners in March 2004. The agreement covers an area of Riamukka and Nowendoc State Forests on the northern tablelands. Under the agreement, Forests NSW gains cooperation with pest and weed control, fire detection, fire control and building maintenance, while the Anaiwan elders will use the area for camping, caretaker accommodation and cultural heritage teaching. The agreement aims to strengthen the positive relationship between the Anaiwan traditional owners and Forests NSW.

COMMUNITIES IN FORESTS

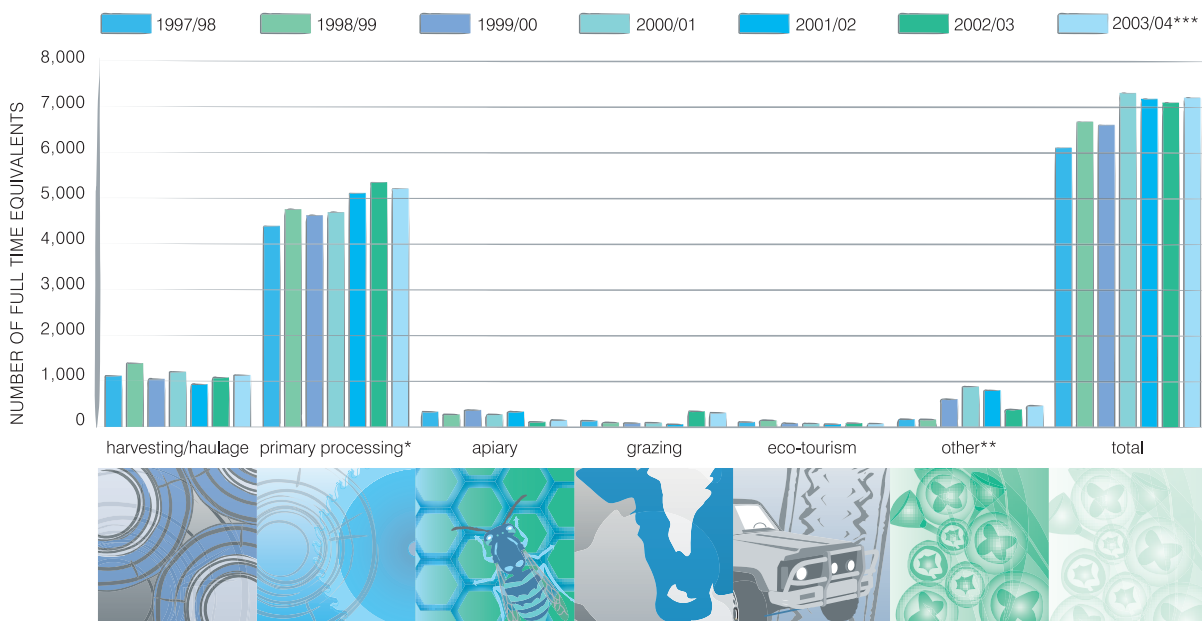
During the year, our staff were involved with 13 volunteer programs in State forests, with 194 participants (comprised of 25 staff members and 169 community volunteers) over 111 days.

A joint Forests NSW and Conservation Volunteers Australia (CVA) program for conservation activities in State forests was established in 2004. The program, 'Communities in Forests', aims to maximise the involvement of communities and volunteers in the support of conservation management programs. Projects included threatened species habitat surveys, the development of ponds to enhance frog diversity, maintenance of 8km of recreational trails, weed eradication, participation in community days and bush regeneration.

REGIONAL EMPLOYMENT

The contribution of State forests to the economies of regional NSW continues to remain strong with more than 7,000 direct jobs arising from forest dependent industries and an additional 1,100 in forest management. The flow-on effect of this is estimated to be over 15,600 additional jobs in regional communities across the State. Growth over the past five years has been most evident in the primary processing sector (see graph below).

Regional employment in State forest dependant industries



*Processing undertaken at a site where the input is raw material supplied by Forests NSW.

**Indicates plantation establishment contractors, gravel extraction, forest product removal and miscellaneous other timber harvesting.

***Includes 2002/03 data for South East Region.



ENVIRONMENTAL

Ecologically sustainable management of native and planted forest to protect and enhance environmental and conservation values and expanding the plantation estate to help meet future market needs.

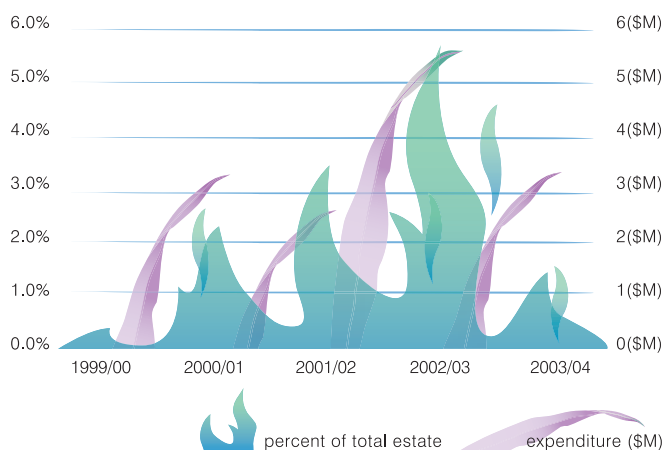
| FOREST VALUE | INDICATOR | PAGE | | RESULTS | PERFORMANCE |
|------------------------|---|-------|---|--|-------------|
| Biodiversity | Extent of forest type | 9 | 🌿 \$ | Total forest estate managed over 2,816,000 ha | ↓ |
| | – Native forests | 18 | | 2,320,000 ha of native forest managed | ↓ |
| | – Planted forests | 19 | | 496,000 ha of plantation estate | ↓ |
| | Native forest structure | 9 | 🌿 \$ 🌿 | 22.7% Regrowth, 23.9% Mature, 4.1% HCV Old Growth, 3.9% Rainforest and 45.4% unassigned | ↔ |
| | Fauna | 21 | 🌿 | 41 targeted species found with 2,956 sightings | ↑ |
| Forest health | Pests and weeds | 19 | 🌿 🌿 \$ | \$1.9 million spent on pest animal and weed control | ↔ |
| | Plantation affected by insect and disease | 19-20 | 🌿 \$ | 3% of hardwood plantations and <1% of softwood plantations affected by significant health issues | ↑ |
| | Fire fighting and prevention prevention | 8,20 | 🌿 🌿 \$ | 1.5% of State forests burnt by wildfire | ↑ |
| | | | | 27% of State forests treated by fuel management strategies | ↑ |
| | | | \$10.9 million spent on fire prevention and control | ↑ | |
| Soil and water | Protection of soil and water | 20 | 🌿 🌿 | 118,000 hectares of forest assessed for inherent soil erosion hazard | ↓ |
| | | | | 11.3% of State forest managed to protect water catchments | ↑ |
| Compliance | Regulatory compliance | 21 | 🌿 \$ | 99.4% compliance rate, 1 fine issued, no prosecutions | ↑ |
| Environmental services | Carbon sequestration | 22 | 🌿 \$ 🌿 | 4.2 million tonnes of CO ₂ sequestered by plantations | ↔ |
| | Energy consumption | 22 | 🌿 \$ | Over 10,000 tonnes of CO ₂ emitted and 12% of electricity sourced from green power | ↔ |
| | Material consumption and recycling | | 🌿 \$ | 71.6% of waste recycled or reused; 20.2% of product purchased with recycled content | ↑ |

FIRE

More than 46,000 ha of State forests were subject to hazard reduction burning during the favourable conditions experienced in 2003/04. Hazard reduction involves reducing or removing fuels (usually leaves, bark and twigs) from the forest floor before the onset of a bushfire to protect people, property and forest assets. Fire needs three things – oxygen, heat and fuel – and fuel is really the only one we can have an impact on. By reducing fuels over winter, Forests NSW can influence the way fires will behave over summer.

Burning in State forests is targeted in dry eucalypt forests and woodlands well-adapted to low intensity fire. Burns are mostly conducted in areas that have not been burnt for many years, with studies demonstrating that low intensity fire contributes to the health and vigour of forest biodiversity.

Percent of State forests burnt by wildfire and expenditure on suppression activities



AREA OF NATIVE FOREST

A decrease in the area of native forests in informal reserve and across all forest types and structural classes managed by Forests NSW has occurred. This is the result of changes to the area of the State forest, following the transfer of 60,000 ha of native forest to national park in 2002. Significantly, an additional 13,000 ha of rainforest and almost 30,000 ha of high conservation value old growth are now within the national park estate, where they were previously managed under the informal reserve system in State forest.

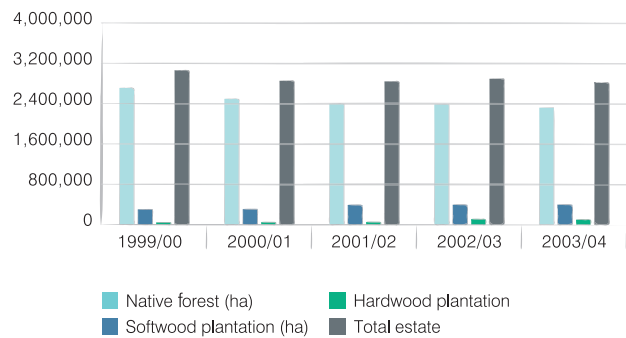
WATER QUALITY AND QUANTITY

Effectively acting as filters, forests in the headwaters of catchments play a significant role in maintaining downstream water quality and supply. More than 300,000 ha of State forest are managed specifically to protect these values.

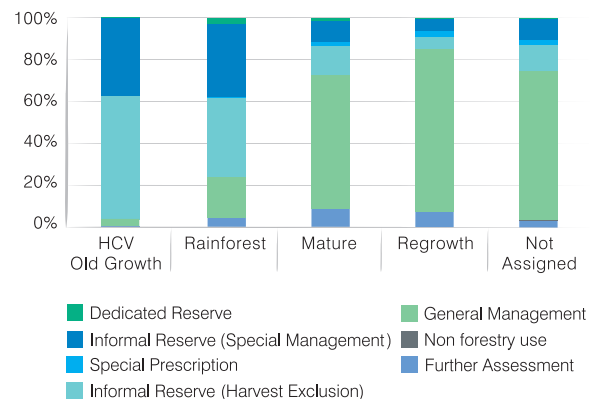
Forests NSW has a team of researchers across the state involved in several long-term studies to determine water quality in selected catchments in both native forests and softwood plantations. The water quality monitoring program aims to determine if there is an identifiable impact on water quality from licensed operations and, if so, to quantify the level of impact. Current studies investigating the variation in water quality between harvested and non-harvested areas suggest that in native forests there is a slight but hardly noticeable difference between the two areas, which might last for up to six months before steadily returning to pre-harvesting conditions.

Other studies are underway to determine the effect of the thinning of forests on water yields in regrowth native forest and plantation catchments.

Extent of forest type within State forests



Native forest structure in State forests (2003/04)





ECONOMIC

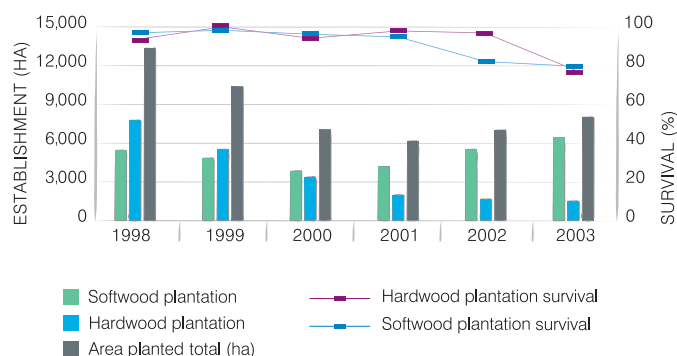
Ensuring an adequate return from the marketing of wood products from the State's native forest and plantations while also developing innovative commercial products and services to facilitate private investment in new planted forests.

| FOREST VALUE | INDICATOR | PAGE | RESULTS | PERFORMANCE | |
|---------------------|---|-------|---------|--|-------------|
| Productivity | Forest management | 24-25 | \$ 🌲 | 1,609,000 ha available for timber production 602,000 hectares in State forest reserves 606,000 hectares of other forest protected | ↓ ↓ ↔ |
| | Plantation establishment and survival | 10 | \$ 🌲 🌳 | 6,506 hectares of softwood plantation and 1,529 hectares of new hardwood plantation established 80% of softwood plantation and 78% of hardwood plantation successfully established after one year | ↑ ↓ |
| | Mean annual growth of planted softwood forest | 23 | \$ 🌲 | Mean annual growth increment for softwood plantations of 16.7 m ³ /ha/yr | ↔ |
| | Sustainable yield | 12 | \$ 🌲 🌳 | Actual annual volume of high quality sawlogs as % of sustainable yield: – 97% from native forests – 101% from all softwood plantations | ↑ |
| | Native forest regeneration | 23 | \$ 🌲 | 86% of surveyed harvested area successfully regenerated | ↓ |
| Marketing and sales | Volume of timber harvested | 26 | \$ 🌲 🌳 | 2.96 million m ³ of logs and 1.57 million tonnes of pulpwood | ↑ |
| | Product mix of timber harvested | 24 | \$ 🌲 🌳 | Increase in proportion of sawlogs processed into high value products | ↑ |

PLANTATION ESTABLISHMENT AND SURVIVAL

More than 8,000 ha of new softwood and hardwood plantations was established in 2003. Surveys of these plantings show a survival rate of 80% in softwood plantation and 78% in hardwood plantations after one year. Low levels of survival compared with previous years reflect the impact of the ongoing drought conditions across much of NSW, increasing susceptibility of seedlings to attack from insects and pests as well as disease infestation.

Plantation establishment and survival



NATIVE FOREST REGENERATION

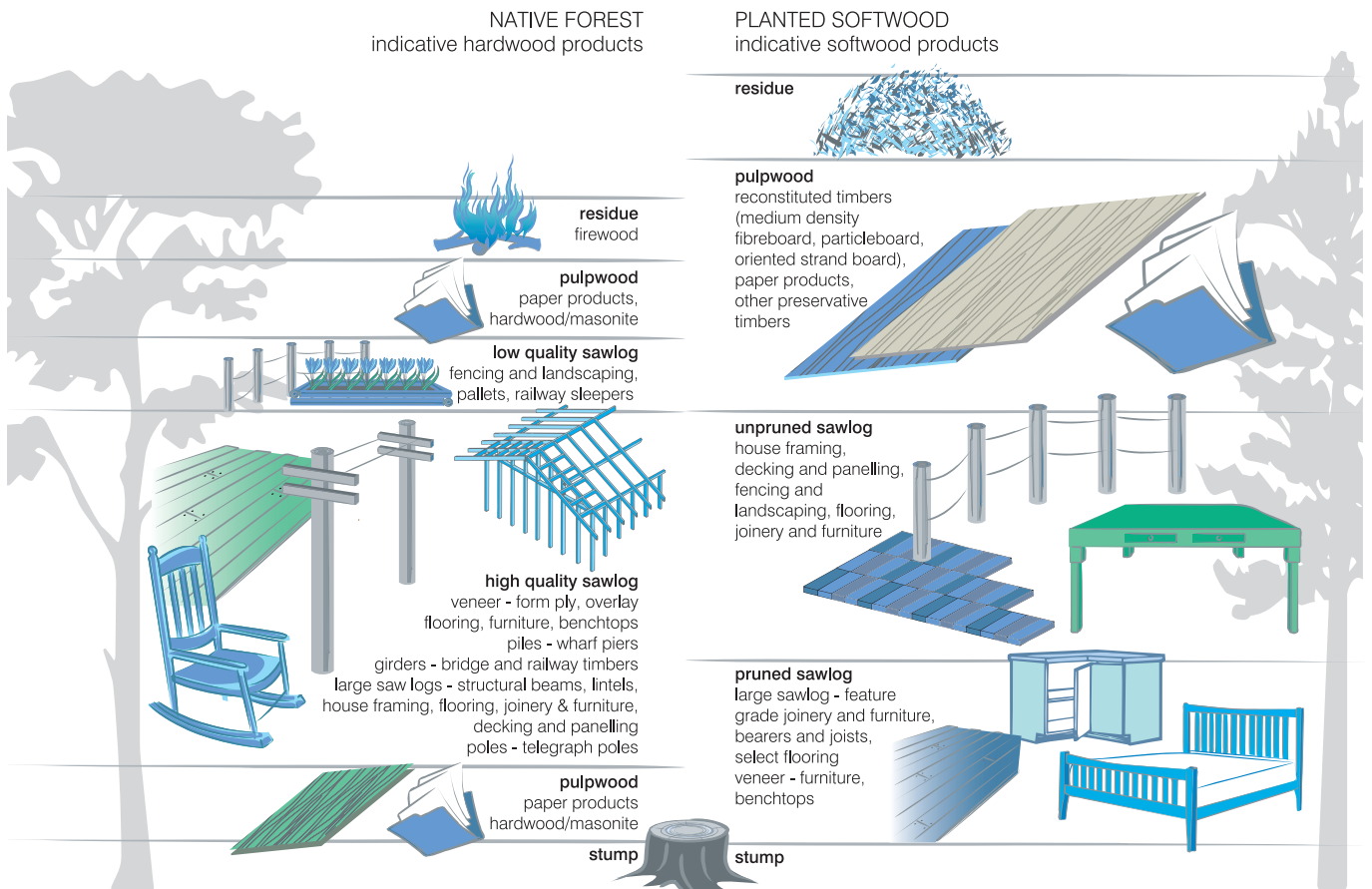
Understanding how well native forests are regenerating after harvesting is important in determining the future productivity of forests. Significant improvements in the number of regeneration assessments undertaken during 2003/04 were made following the outcomes of an audit of the Environmental Management System for native forests. It is anticipated that this trend will continue with the implementation of Forests NSW new inventory policy, developed during 2004.

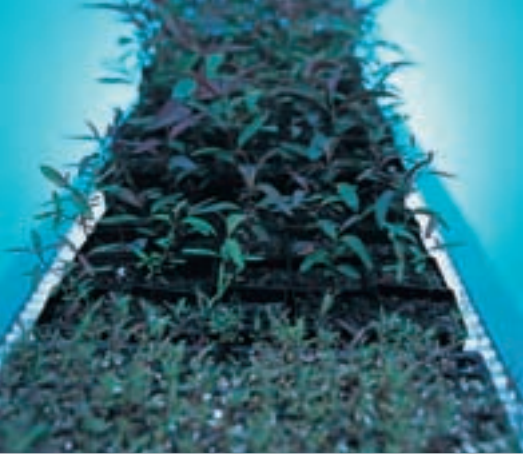
HISTORIC CONTRACTS SIGNED ON NORTH COAST

The NSW Government has signed the first in a series of 20-year wood supply agreements that will underpin timber industry employment and investment on the NSW north coast. The agreements replace previous supply agreements for high quality sawlogs finalised following the North East Regional Forest Agreement. The wood supply contracts provide the timber industry with unprecedented security and are an investment incentive.

The new contracts recognise the changing nature of future timber resources, particularly the increased supply from hardwood plantations and the capacity of industry to process and add value to smaller, lower quality logs. The changes will also ensure optimum use of the available wood resource. The logging industry benefits, along with many north coast communities.

Timber products - What comes from where?





SUSTAINABILITY

Managing State forests for the long-term and retaining opportunities for future generations to meet their needs and expectations while providing for the present.

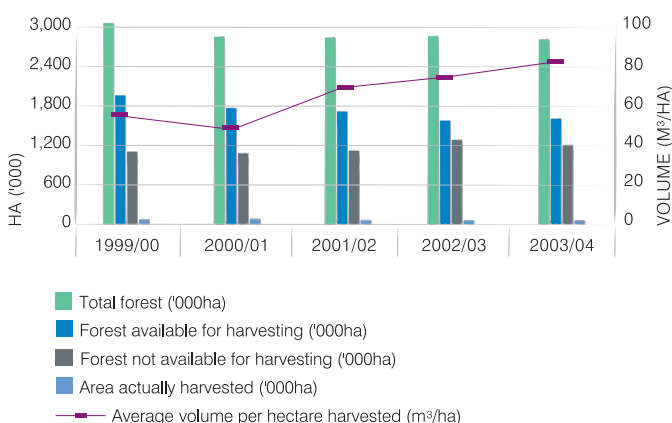
The area of forest that is available for harvesting, how well we are meeting our commitments to the timber industry and the degree to which the environment is protected during timber harvesting are significant short-term sustainability issues for Forests NSW. Our ability to meet Government expectations of a growing profit from timber revenue also influences organisational decision-making and efficiency.

In the longer term, considerations of future productivity and sustainable yield, how well the forest is regenerating after harvesting, stability of all environmental functions, social equity with respect to the range of values managed for and the adequacy of staff training and knowledge management are of primary concern. The ability of the organisation to adapt to changes in the expectations of all stakeholders is also a significant challenge.

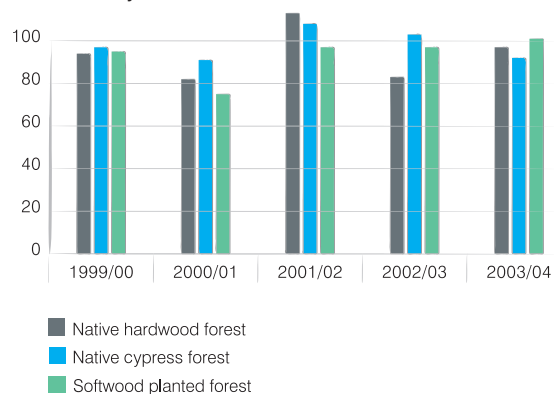
Over the past five years, the area of State forest managed for timber production has declined significantly while demand for wood products has remained stable. In parallel with this, the proportion of State forest managed for conservation values has increased. As a result trends show that we are harvesting less forest each year (see below) and while the average volume removed per hectare harvested has increased slightly, this is still within agreed sustainable levels and reflective of the selective nature of timber harvesting operations (see graph right).

Finding and maintaining a balance between the expectations placed on the organisation in terms of productivity and profitability and the management of healthy, functioning forest ecosystems will continue to be a significant management challenge.

Area of forest harvested



Sustainable yield*



* The volume of high quality veneer logs and sawlogs that can be harvested each year is set at a sustainable level to maintain productive forest ecosystems in the long term. For native forests in eastern NSW, this level has been established through the Regional Forest Agreement process and is reflected in timber supply agreements with industry. Elsewhere, the level of production in native forests is based on forest type, yield history and the advice of Forests NSW operational, resources, marketing and research Divisions. Harvesting in plantations is measured against commitments to industry.

CERTIFICATION AND ENVIRONMENTAL MANAGEMENT SYSTEMS

An Environmental Management System (EMS) defines the approach an organisation takes to protecting the environment from harmful impacts of its operations. Forests NSW is developing an EMS for its native forest and plantation management activities. Progress over the past two years has been substantial as the EMS for native forest operations has been implemented and audits completed in all regional centres. Results are positive, with major areas to be addressed including the completion of the Ecologically Sustainable Forest Management (ESFM) plans and the finalisation a non-conformance system. An EMS for planted forests is under development and will be implemented in December 2004.

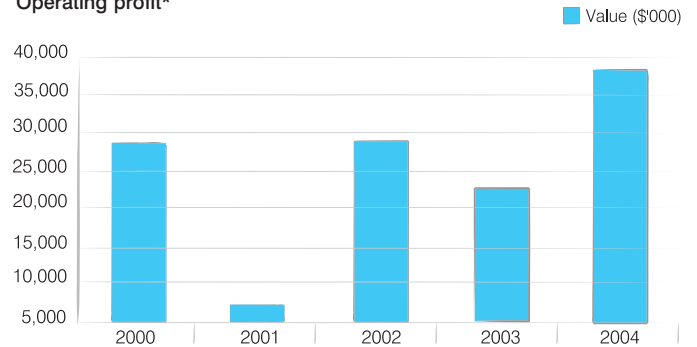
Forests NSW is responding to customer interest in forest certification, ensuring the environmental credentials of the timber supply, and we are determining which certification scheme is most appropriate, with a number of options available internationally and national. It is likely that as more forests become certified and product is available, the market requirement for certified products will increase.

ECOLOGICALLY SUSTAINABLE FOREST MANAGEMENT (ESFM) PLANS

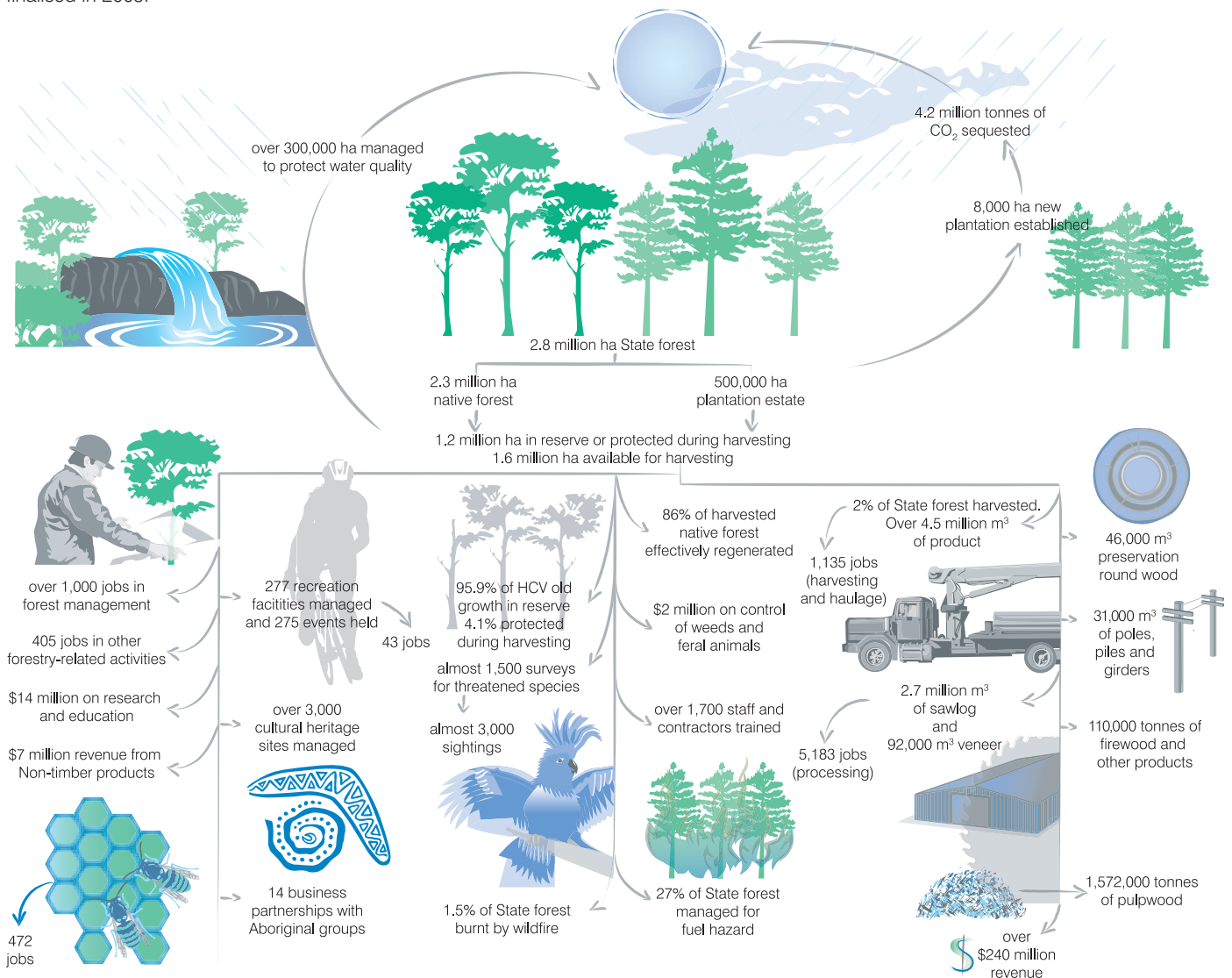
A blueprint for achieving the principles of ecologically sustainable forest management, ESFM plans represent a new approach to managing State forests. They are intended to help people to understand how the forests are managed and set out broad strategies, performance indicators and measurable outcomes for five years. The plans include strategies in key areas including Aboriginal and non-Aboriginal cultural heritage, protected areas, forest health, sustainable timber supply, economic and social development, operations and consultation, monitoring and reporting.

Draft ESFM plans for the Eden, Lower North East, Upper North East, and Southern Regions will go on public display and be finalised in 2005.

Operating profit*



* Exclusive of forest revaluation, capital grants, superannuation fund interest and abnormals.





APPENDICES

APPENDIX 1 - SOCIAL RESPONSIBILITY

| Corporate sponsorships, donations and waived fees | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---|---------|---------|---------|---------|
| Number | >50 | 135 | 268 | 774* |
| Amount (\$) | 97,924 | 105,905 | 278,692 | 198,832 |

*Why? Due to increased contributions to schools, councils and local Aboriginal land councils.

APPENDIX 2 - PUBLIC PARTICIPATION \$

| Community forum categories | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|------------------------------------|--------------|--------------|--------------|--------------|---------------|
| Catchment management | 126 | 104 | 75 | 60 | 52 |
| Community bushfire management | 363 | 375 | 353 | 207 | 196 |
| Community/school/education | 752 | 239 | 236 | 247 | 91 |
| Conservation/environmental | 104 | 80 | 62 | 212 | 40 |
| Cultural management | 214 | 137 | 197 | 336 | 102 |
| Feral animals/noxious weed control | 72 | 145 | 140 | 107 | 88 |
| Flora and fauna management | 30 | 47 | 149 | 73 | 32 |
| Forestry/forest practices | 47 | 35 | 114 | 60 | 30 |
| Industry/stakeholders | 110 | 188 | 268 | 223 | 214 |
| Local emergency management | 14 | 17 | 30 | 19 | 25 |
| Local government | 72 | 93 | 90 | 52 | 40 |
| Other | 37 | 51 | 16 | 27 | 14 |
| Recreation/tourism | 64 | 52 | 37 | 52 | 45 |
| Regional planning/RFA | 94 | 43 | 91 | 64 | 49 |
| Total | 2,099 | 1,606 | 1,858 | 1,739 | *1,018 |

*Why? The consultation phase and negotiations for the Western Regional Assessment ended, resulting in a decline in meetings and forums particularly in the areas of environment, conservation and cultural management.

APPENDIX 3 - RECREATION AND TOURISM \$

| Recreational facilities provided | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|----------------------------------|------------|------------|------------|------------|-------------|
| Beaches | n/a | n/a | n/a | 25 | 25 |
| Roadside rest areas/picnic areas | 119 | 87 | 64 | 63 | 53 |
| Forest drives (marked) | 31 | 24 | 19 | 16 | 16 |
| Forest walks (marked) | 61 | 46 | 48 | 47 | 47 |
| Lookouts | 49 | 33 | 30 | 25 | 24 |
| Camping areas | 266 | 115 | 160 | 87 | 86 |
| Camps/huts /cottages | 25 | 23 | 17 | 20 | 17 |
| Mountainbike tracks | n/a | n/a | n/a | 4 | 9 |
| Total facilities | 567 | 601 | 338 | 283 | *277 |

*Why? Management of facilities to provide better quality sites in strategic locations means that some facilities have been closed or transferred to national park.

APPENDIX 3 - RECREATION AND TOURISM (CONT'D)

| Permits for organised recreation activities | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---|--------------|----------------|----------------|----------------|----------------|
| Eco tourism/4x4 tours | 87 | 50 | 41 | 41 | 25 |
| Horse, trail and endurance rides | 32 | 45 | 32 | 22 | 30 |
| Car rallies /go carts | 36 | 34 | 30 | 20 | 24 |
| Motor bike rallies | 6 | 5 | 6 | 12 | 9 |
| Mountain bike rallies | 5 | 20 | 17 | 17 | 14 |
| Orienteering/mountain runs/triathlon | 34 | 21 | 16 | 9 | 24 |
| Bushwalking | 8 | 21 | 2 | 6 | 6 |
| Bowhunting/archery | 20 | 14 | 1 | 2 | 0 |
| Other | 29 | 28 | 55 | 79 | 76 |
| Education/outdoor education schools | 272 | 575 | 20 | 31 | 32 |
| Training/exercises | 84 | 79 | 68 | 52 | 35 |
| Total activities | 613 | 892 | 283 | 291 | 275 |
| Area zoned primarily for recreation (ha) | 4,754 | 2,406 | 2,329 | 2,022 | 2,017 |
| Expenditure on recreation (\$'000) | | \$2,085 | \$1,681 | \$1,688 | \$2,121 |

APPENDIX 4 - RESEARCH AND EDUCATION   \$

Annual expenditure on research and education

| | Research (\$M) | Education (\$M) |
|---------|----------------|-----------------|
| 1998/99 | 7.2 | n/a |
| 1999/00 | 7.1 | 2.8 |
| 2000/01 | 7.1 | 4.6 |
| 2001/02 | 7.2 | 3.9 |
| 2002/03 | 7.1 | 3.5 |
| 2003/04 | 9 | 4.9 |



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APPENDIX 5 - OTHER FOREST PRODUCTS \$

Quantities of forest products

| Forest product | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Grazing (Ha's) | 764,377 | 711,537 | 644,966 | 783,842 | 680,467 |
| Apiculture (Sites) | 4,022 | 3,467 | 3,606 | 3,369 | 3,416 |
| Leaf/oil (Kg's) | 6,874 | 911 | 1,100 | 32,810 | 1,891 |
| Seed (Kg's) | 688 | 2,460 | 70 | 30 | 530 |
| Bark (Tonnes) | 1,035 | 10 | 8 | 15 | 4 |
| Firewood (Tonnes) | 77,628 | 77,203 | 26,090 | 18,746 | 74,393 |
| Broombush (Tonnes) | 2,442 | 2,523 | 2,625 | 3,147 | 5,134 |
| Charcoal (Tonnes) | 1,805 | 1,183 | 10,200 | 1,596 | 2,173 |
| Craft timber (m ³) | 4,127 | 519 | 927 | 108 | 21 |
| Misc native plants pieces (No.) | 23,449 | 9,873 | 4,446 | 3,456 | 84,087 |
| Burls (Tonnes) | 13 | 12 | 8 | 8 | 6 |
| Wood blocks (No.) | 7,045 | 4,550 | 4,090 | 4,612 | 4,226 |
| Film/documentary (Permits) | 6 | 3 | 3 | 1 | 3 |
| Communication sites (Permits) | 135 | 122 | 130 | 112 | 104 |
| Other structures (Permits) | 486 | 97 | 177 | 161 | 296 |
| Powerlines/cables/pipelines (Km's) | 1,461 | 2,904 | 1,333 | 925 | 838 |
| Gravel/sand/rock (Tonnes) | 103,275 | 80,212 | 269,548 | 142,381 | 145,883 |
| Research (Permits) | 100 | 105 | 86 | 74 | 67 |
| Nursery seedlings to public (No.) | 1,500,000 | 1,141,000 | 1,186,000 | 1,110,000 | 1,047,000 |
| Maps sold to public (No.) | 19,945 | 19,143 | n/a | 1,465 | 2,254 |
| Total Value (\$'000) | \$6,265 | \$7,506 | \$7,031 | \$7,113 | \$7,071 |

APPENDIX 6 - QUALITY OF MANAGEMENT \$

| Equal Employment Opportunities (EEO) | Women | REERM* | Aboriginal and Torres Strait | | Total staff** |
|--------------------------------------|-------|--------|------------------------------|-----------|---------------|
| | | | Persons with Disability | Islanders | |
| 1999/00 | 253 | 45 | 74 | 26 | 1,218 |
| 2000/01 | 212 | 51 | 73 | 30 | 1,130 |
| 2001/02 | 206 | 51 | 76 | 29 | 1,095 |
| 2002/03 | 215 | 47 | 71 | 27 | 1,112 |
| 2003/04 | 214 | 48 | 64 | 24 | 1,087 |

* Racial, Ethnic and Ethno/Religious minority groups

** Does not include casual employees

APPENDIX 7 - TRAINING   **Staff and contractor training**

| Course | Employees | Contractors | Total |
|---|------------|-------------|--------------|
| Forest management, inventory and silviculture | 40 | 2 | 42 |
| Flora and fauna identification and management | 19 | 3 | 22 |
| Soil and water | 18 | 69 | 87 |
| Fire | 86 | 14 | 100 |
| Cultural heritage | 68 | 32 | 100 |
| Environmental | 3 | 32 | 35 |
| OH&S - including chainsaw, 4WD training and first aid | 510 | 381 | 891 |
| Roading and road survey | 2 | 0 | 2 |
| Product Identification and assessment | 13 | 34 | 47 |
| Induction | 103 | 24 | 127 |
| Forest harvest operator | 4 | 106 | 110 |
| HR Management | 54 | 23 | 77 |
| Legal and administration | 0 | 5 | 5 |
| Map reading and airphoto interpretation | 9 | 0 | 9 |
| Computer skills | 26 | 0 | 26 |
| Pest and weed control | 11 | 0 | 11 |
| Total | 966 | 725 | 1,691 |

APPENDIX 8 - HEALTH AND SAFETY  

| OH&S Issue | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|--|---------|---------|---------|---------|
| Number of safety meetings held | 76 | 83 | 99 | 83 |
| Number of lost time incidents | 42 | 36 | 40 | 31 |
| Number of days lost due to LTI's | 1203 | 971 | 925 | *216.9 |
| Lost time incident frequency rate | 18.6 | 16.4 | 18.1 | 13.9 |
| Provision of health or fitness services | n/a | 15 | 91 | 187 |
| Provision of specialised equipment or clothing | n/a | 367 | 262 | 352 |
| Risk assessments | n/a | 241 | 202 | 293 |
| Training | n/a | 194 | 165 | 107 |
| Voluntary audits | n/a | 72 | 107 | 146 |

*Why? To improve our safety performance an extensive staff and contractor safety training program was undertaken and what a result.



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APPENDIX 9 - CULTURAL HERITAGE

| Aboriginal sites found in State forest | 1999/00 | 2000/01 | 2001/2002 | 2002/03 | 2003/04 | Total |
|---|------------|------------|-----------|-----------|------------|--------------|
| Natural features | 2 | 20 | 1 | 1 | 0 | 477 |
| Sites of historic importance | 1 | 0 | 0 | 5 | 4 | 21 |
| Art and ceremonial sites | 5 | 3 | 0 | 18 | 4 | 96 |
| Sites associated with tools, artefacts and hunting | 84 | 393 | 44 | 40 | 172 | 1,548 |
| Sites associated with traditional Aboriginal life | 27 | 55 | 6 | 4 | 30 | 1,154 |
| Not classified | 0 | 69 | 0 | 27 | 3 | 2 |
| Total Aboriginal sites | 119 | 540 | 51 | 95 | 213 | 3,298 |
| Number of cultural heritage surveys | n/a | n/a | n/a | n/a | 308 | |
| Training in cultural heritage awareness (employees) | n/a | n/a | 239 | 160 | 100 | |
| Area managed for cultural heritage | n/a | n/a | 176 | 14,117 | 14,070 | |
| Agreements for co-management of land (No.) | n/a | n/a | 3 | 5 | 4 | |
| Agreements for co-management of land (Ha) | n/a | n/a | 1,730 | 6,167 | *53,987 | |
| Partnerships | n/a | n/a | 19 | 11 | 14 | |

*How? Four new agreements for co-management have been reached with Aboriginal groups on the Mid North Coast and South Coast.

APPENDIX 10 - EXTENT OF NATIVE FOREST TYPE** \$

| Native Forest Type | 1999/00 | | 2000/01 | | 2001/02 | | 2002/03 | | 2003/04 | |
|-----------------------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|-------------------|------------|
| | Area (ha) | % | Area (ha) | % | Area (ha) | % | Area (ha) | % | Area (ha) | % |
| Alpine ash forest | 17,806 | 1 | 17,361 | 1 | 17,833 | 1 | 17,802 | 1 | 17,399 | 1 |
| Blackbutt forest | 139,346 | 5 | 128,905 | 5 | 129,591 | 5 | 127,253 | 5 | 115,889 | 5 |
| Blue gum forest | 159,735 | 6 | 154,516 | 6 | 152,565 | 6 | 136,244 | 6 | 122,982 | 5 |
| Messmate forest | 260,464 | 10 | 244,550 | 10 | 250,403 | 10 | 247,468 | 10 | 231,802 | 10 |
| Mixed coastal eucalypt | 202,116 | 8 | 192,901 | 8 | 197,087 | 8 | 195,024 | 8 | 179,000 | 8 |
| Non eucalypt forest | 13,939 | 1 | 12,873 | 1 | 14,301 | 1 | 18,446 | 1 | 13,391 | 1 |
| Non forest | 89,288 | 5 | 117,377 | 12 | 269,536 | 11 | 216,838 | 9 | 299,875 | 13 |
| Other inland eucalypt types | 276,444 | 10 | 284,776 | 11 | 186,940 | 8 | 322,577 | 14 | 299,742 | 13 |
| Rainforest | 71,869 | 3 | 72,903 | 3 | 75,114 | 3 | 102,345 | 4 | 82,974 | 4 |
| River red gum forest | 102,360 | 4 | 93,225 | 4 | 94,798 | 4 | 110,553 | 5 | 118,642 | 5 |
| Snow gum woodland | 33,763 | 1 | 25,758 | 1 | 28,090 | 1 | 28,093 | 1 | 25,749 | 1 |
| Spotted gum forest | 209,178 | 8 | 198,238 | 8 | 199,007 | 8 | 199,198 | 8 | 186,223 | 8 |
| Stringybark forest | 373,190 | 14 | 237,416 | 10 | 218,849 | 9 | 218,924 | 9 | 222,805 | 10 |
| Un-classified | 526,225 | 19 | 468,574 | 19 | 358,321 | 15 | 219,129 | 9 | 79,702 | 3 |
| White cypress pine forest | 236,764 | 9 | 246,173 | 10 | 206,997 | 9 | 229,465 | 10 | 281,544 | 12 |
| Total | 2,713,000 | 100 | 2,495,548 | 100 | 2,399,432 | 100 | 2,389,359 | 100 | *2,277,719 | 100 |

*Why? Additional areas of State forest (over 60,000 ha) were transferred to National park in a decision by the NSW Government in 2002.

**Includes only State forest managed by Native Forests Operational division. Does not include native forest on the planted forest estate or forest on other tenure managed by Forests NSW.

APPENDIX 11 - EXTENT OF PLANTED FOREST TYPE 🌿 \$

| Plantation type | 1999/00 | | 2000/01 | | 2001/02 | | 2002/03 | | 2003/04 | |
|--|----------------|------------|----------------|------------|----------------|------------|----------------|-------------|----------------|-------------|
| | Area (ha) | % | Area (ha) | % | Area (ha) | % | Area (ha) | % | Area (ha) | % |
| Softwood (<i>Pinus</i> spp) | 201,720 | 57 | 204,817 | 57 | 206,738 | 47 | 212,495 | 42 | 209,659 | 42 |
| Hardwood (<i>Eucalyptus</i> spp) | 46,066 | 14 | 49,493 | 14 | 52,691 | 12 | 56,944 | 11 | 48,444 | 10 |
| Total planted area | 247,795 | 71 | 254,310 | 71 | 259,429 | 59 | 269,439 | 53.2 | 258,103 | 52.1 |
| Retained vegetation and infrastructure | 74,634 | 21 | 75,084 | 21 | 158,759 | 36 | 207,785 | 41 | 208,251 | 42.1 |
| Land for future planting | 28,030 | 8 | 28,570 | 8 | 5,552 | 5 | 25,523 | 5 | 23,652 | 4.7 |
| Other exclusions | | | | | | | 3,114 | 0.6 | 5,644 | 1.1 |
| Total planted forest estate | 350,459 | 100 | 357,964 | 100 | 443,740 | 100 | 505,860 | 100 | 495,651 | 100 |

* Note: this figure includes State forest, Joint Venture and Annuities. Areas for hardwood plantation include pre-1994 plantations that may or may not be accredited.

APPENDIX 12 - PESTS AND WEEDS 🌿 🐛 \$

Expenditure on pest animals and weed control

| Year | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|--------------|------------------|--------------------|--------------------|--------------------|---------------------|
| Weeds | \$552,000 | \$563,000 | \$690,000 | \$1,459,000 | *\$ 1,235,017 |
| Pest animals | \$369,000 | \$466,000 | \$526,000 | \$640,000 | \$694,238 |
| Total | \$921,000 | \$1,029,000 | \$1,215,000 | \$2,099,000 | \$ 1,929,255 |

*What? Over 200,000 ha of weeds including large areas of blackberry in plantations, Horehound, Serrated tussock grass and Patterson's curse were treated.

APPENDIX 13 - INSECTS AND DISEASE 🌿 \$

New hardwood plantation impacted by insects and disease*

| Agent | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|-------------------------------------|---------|---------|---------|---------|---------|
| Herbivorous and sap-sucking insects | 25.80% | 2.80% | 5.80% | 7.50% | 2.50% |
| Stem borers (insects) | 0.50% | 0.30% | 0.14% | 0.14% | 0.14% |
| Soil pathogens (fungi) | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| Frost damage | | | | 4.00% | 0.00% |
| Leaf and shoot fungi | n/a | n/a | 2.40% | 1.00% | 0.50% |
| Unaffected | 73.7% | 96.9% | 91.70% | 87.36% | 96.86% |

* Planted hardwood forest post 1994. Based on 26,000 ha planted area (only a proportion of estate surveyed).



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APPENDIX 13 (CONT'D) - INSECTS AND DISEASE 🌿 \$

Softwood plantation impacted by insects and disease*

| Agent | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|-----------------------------|---------|---------|---------|---------|---------|
| Dothistroma (Needle blight) | 2.30% | 2% | 1.30% | 0.90% | 0.50% |
| Sphaeropsis (fungus) | 0.10% | 0.50% | 0.13% | 0.01% | 0.01% |
| Boron deficiency | 3.80% | 0.50% | 0.03% | 0.01% | 0.01% |
| Sirex (insect) | 0.00% | 0.02% | 0.01% | 0.01% | 0.01% |
| Possum damage | 0.20% | 0.23% | 0.20% | 0.18% | 0.10% |
| Unaffected | 93.60% | 96.60% | 98.30% | 98.90% | 99.37% |

* Based on the planted area of the softwood plantation estate.

APPENDIX 14 - FIRE 🌿 🏠 \$

| Area of fuel management and expenditure Fuel management strategy | 2001-2002 | | 2002/2003 | | 2003/04 | |
|---|------------|------|------------|------|------------|------|
| | Area (ha) | % | Area (ha) | % | Area (ha) | % |
| Hazard reduction (ha) | 35,053 | 1.3 | 30,267 | 1.1 | 45,885 | 1.6 |
| Post/pre log burn (ha) | 23,840 | 0.8 | 24,242 | 0.9 | 29,655 | 1.1 |
| Grazing (ha) | 644,966 | 22.7 | 783,842 | 28.0 | 680,467 | 24.2 |
| Expenditure (\$'000) | 6.1 | | 8.6 | | 7.6 | |

APPENDIX 15 - SOIL AND WATER 🌿 🏠

| Land primarily assigned for catchment protection* | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|--|----------------|----------------|----------------|----------------|----------------|
| Fully protected land (ha)** | 290,700 | 262,053 | 238,233 | 194,172 | 233,672 |
| Partly protected land (ha)*** | 30,200 | 46,090 | 63,202 | 104,210 | 81,171 |
| Total | 320,900 | 308,143 | 301,435 | 298,382 | 314,843 |
| Area assessed for soil and water (ha) | | | 121,000 | 193,000 | 117,903 |
| Number of soil and water surveys | n/a | 261 | 189 | 271 | 372 |
| Expenditure on harvesting supervision and environmental compliance | | \$5,560,205 | \$5,503,854 | \$5,693,545 | \$6,041,092 |
| Area of native forest harvested (ha) | 56,900 | 64,166 | 50,351 | 49,062 | 45,746 |
| Area of softwood plantation harvested (ha) | 14,000 | 16,538 | 13,271 | 12,486 | 12,783 |
| Area of hardwood plantation harvested (ha) | 2000 | 2005 | 0 | 0 | 0 |
| Total area harvested | 73,000 | 82,709 | 63,622 | 61,582 | 58,529 |
| Percent of forest estate harvested | 2.4 | 2.9 | 2.2 | 2.2 | 2.1 |
| Soil and water non-compliance incidents self reported | 1,255 | 860 | 1,304 | 1,039 | 823 |
| Fines received in relation to soil and water | 3 | 5 | 4 | 0 | 1 |

Why? Improved mapping of drainage results in more forest managed to protect water quality.

*Excludes substantial tracts of land otherwise zoned primarily for natural and cultural protection which also provide a catchment protective function.

**Includes wetlands, filter strips reserved from harvesting and areas with extreme risk of erosion or water pollution hazard.

***Includes Forest Management Zone "Catchment" and filter strips protected in areas where modified harvesting methods are permitted.

APPENDIX 16 - REGULATORY COMPLIANCE  \$

| Compliance items | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---|--------------|--------------|--------------|--------------|--------------|
| Number of compliance check sheets conducted | | | | | |
| - 1st tier supervision checks | 5,428 | 3,122 | 3,192 | 3,532 | 2,921 |
| - 2nd tier supervision checks | 420 | 302 | 378 | 405 | 383 |
| - 3rd tier supervision checks | | | 2 | 4 | 4 |
| - 4th tier supervision checks | | | 1 | 1 | 2 |
| Total | 5,848 | 3,424 | 3,573 | 3,942 | 3,310 |
| Potential compliance checks covered by check sheets | 497,080 | 291,040 | 303,705 | 335,070 | 281,350 |
| Number of non-compliance incidents (NCI) recorded by Forests NSW supervision for corrective action | | | | | |
| -NCI's related to soil erosion & water quality | 1,255 | 860 | 1,304 | 1,039 | 823 |
| -NCI's related to flora and fauna | 469 | 399 | 689 | 372 | 444 |
| -NCI's related to fish habitat & passage | 1 | 7 | 0 | 0 | 6 |
| other NCI issues (e.g. safety) | 314 | 272 | 249 | 399 | 395 |
| Total | 2,039 | 1,538 | 2,242 | 1,810 | 1,668 |
| Compliance rate | 99.59% | 99.47% | 99.26% | 99.46% | 99.41% |
| Number of fines issued to Forests NSW by regulators | | | | | |
| Fines to NPWS | 0 | 0 | 0 | 1 | 0 |
| Fines to EPA | 3 | 5 | 4 | 0 | 1 |
| Fines NSW Fisheries | 0 | 0 | 0 | 0 | 0 |
| Total | 3 | 5 | 4 | 1 | 1 |
| Number of prosecutions recorded against Forests NSW | | | | | |
| Prosecutions by NPWS | 1 | 0 | 0 | 0 | 0 |
| Prosecutions by EPA | 0 | 0 | 0 | 0 | 0 |
| Prosecutions by NSW Fisheries | 0 | 0 | 0 | 0 | 0 |
| Total | 1 | 0 | 0 | 0 | 0 |

APPENDIX 17 - SURVEYS FOR THREATENED FAUNA SPECIES 

| Species sightings | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|
| Aboreal mammals | 1,120 | 1,160 | 1,595 | 1,101 | 803 |
| Ground mammals | 64 | 99 | 111 | 70 | 89 |
| Frogs | 359 | 573 | 686 | 366 | 661 |
| Bats | 422 | 153 | 274 | 103 | 292 |
| Raptors | 222 | 305 | 260 | 313 | 197 |
| Non raptor birds | 1,239 | 671 | 573 | 851 | 904 |
| Reptiles | 0 | 8 | 2 | 3 | 10 |
| Total | 3,426 | 2,969 | 3,501 | 2,807 | 2,956 |
| Number of surveys | | 2,082 | 2,277 | 1,616 | 1,489 |
| Sightings per survey | | 1.4 | 1.5 | 1.7 | 2.0 |
| Expenditure on surveys (\$'000) | | \$1,641 | \$1,605 | \$1,306 | \$1,540 |



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APPENDIX 18 - ANNUAL CARBON SEQUESTRATION IN FORESTS 🌲 \$ 🌳

| Planted forest type | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---------------------|-----------|-----------|-----------|-----------|-----------|
| Softwood | 3,509,032 | 3,562,747 | 3,749,135 | 3,654,974 | 3,647,013 |
| Hardwood | 982,349 | 1,056,944 | 1,125,217 | 585,331 | 553,639 |

*Assumptions:

CO₂ sequestered (tonnes CO₂e) = net plantation area x MTBI x CP x CCF where:

MTBI = SBI + CBI + RBI where:

SBI (Stem Biomass Increment) = TSVI x BD where:

TSVI (Total Stem Volume increment) - softwood = 16m³/ha/year and hardwood = 15m³/ha/yr

BD (Basic Density) - softwood = 0.42 t/m³ and hardwood = 0.55t/m³

CBI (Canopy Biomass Increment) = SBI x .1765

RBI (Root Biomass Increment) = (SBI + CBI) x .2

CP (Carbon Proportion) = 0.5

CCDF (Carbon to Carbon dioxide factor) = 3.667

APPENDIX 19 - ENERGY CONSUMPTION 🌲 \$

Energy consumption

| Year | Total Energy (GJ) | CO ₂ Emissions (Tonnes) |
|---------|-------------------|------------------------------------|
| 1999/00 | 110,774 | 10,066 |
| 2000/01 | 110,740 | 10,032 |
| 2001/02 | 110,740 | 10,032 |
| 2002/03 | 117,227 | 10,526 |
| 2003/04 | 111,392 | 10,060 |

APPENDIX 20 - VEHICLES AND PLANT IN FORESTS NSW FLEET 🌲 \$

| Fleet | Fuel Type | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|------------------------|-----------|------------|------------|------------|------------|
| Light vehicles | Diesel | 573 | 490 | 472 | 503 |
| | Petrol | 239 | 170 | 152 | 136 |
| | LPG | n/a | n/a | 1 | 1 |
| Total | | 812 | 660 | 625 | 640 |
| Trucks and light plant | Diesel | 139 | 138 | 204 | 184 |
| | Petrol | 11 | 7 | 7 | 15 |
| | LPG | n/a | n/a | 5 | 4 |
| Total | | 150 | 145 | 216 | 203 |
| Heavy plant | Diesel | 86 | 103 | 84 | 85 |
| | Petrol | 0 | 1 | 1 | 1 |
| Total | | 86 | 104 | 85 | 86 |

APPENDIX 21 - MEAN ANNUAL GROWTH \$ 

Annual growth in softwood plantations

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|--|-----------|-----------|-----------|-----------|
| Annual increment* (m ³) | 3,465,000 | 3,451,000 | 3,500,000 | 3,501,309 |
| Net stocked area** (ha) | 205,007 | 206,000 | 210,000 | 209,659 |
| Mean annual increment*** (m ³ /ha/yr) | 16.9 | 16.7 | 16.7 | 16.7 |

* Annual increment is the change in volume of the planted softwood estate.

** Net stocked area is the area of the estate where trees are planted (i.e. does not include roads, environmental exclusion areas, area awaiting regeneration etc) as at the end of the financial year.

*** Mean annual increment (MAI) is an indication of the productive potential of an average hectare within the estate. The silvicultural and harvesting regimes adopted can influence this figure considerably, so calculating MAI over a 15 year timeframe gives a more balanced figure.

APPENDIX 22 - NATIVE FOREST REGENERATION \$ 

Percentage of native forest regenerated after harvesting

| Regeneration surveys | 1998/99 | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---|---------|---------|---------|---------|---------|---------|
| No. of regeneration surveys undertaken | 63 | 28 | 24 | 4 | 36 | 96 |
| Area surveyed (ha)* | 3,942 | 3,644 | 2,157 | 1,325 | 5,410 | 4,406 |
| Percent of harvesting with effective regeneration | n/a | 98% | 95% | 68% | 87% | 86% |

* This indicator does not report regeneration surveys undertaken in cypress forests. Western region surveyed 6,275 ha following cypress release operations with 100% effective regeneration.



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APPENDIX 23 - FOREST MANAGEMENT \$ 🌲

Area of forest within each Management Zone

| Forest Management Intent | Non harvest land (ha) | | | | |
|---------------------------------------|-----------------------|------------------|------------------|------------------|------------------|
| | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
| Dedicated Reserve | 33,500 | 34,581 | 27,275 | 29,852 | 26,334 |
| Informal Reserve – Special Management | 322,500 | 303,338 | 287,852 | 296,327 | 256,602 |
| Informal Reserve – Harvest Exclusion | 199,000 | 239,277 | 234,271 | 353,204 | 319,165 |
| Special Prescription | 54,500 | 8,552 | 15,690 | 24,025 | 61,081 |
| General Management Native Forest | 387,500 | 382,701 | 363,224 | 335,927 | 323,583 |
| Hardwood planted forest estate* | 0 | 0 | 0 | 53,818 | 48,002 |
| Softwood planted forest estate* | 102,600 | 103,653 | 184,311 | 182,603 | 165,893 |
| Non forestry use | 8,000 | 10,914 | 10,097 | 8,463 | 7,162 |
| Land for further assessment | 0 | 0 | 0 | 0 | 0 |
| Total forest estate | 1,107,600 | 1,083,017 | 1,122,270 | 1,284,219 | 1,207,822 |

* Includes State forest (including pre 1994 plantations), joint venture and annuities

APPENDIX 24 - SAWLOG PRODUCT MIX \$ 🌲 📄

Hardwood forests (native and plantation)

| Product | 1995/6 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|--------------------------|--------|---------|---------|---------|---------|
| Dry structural | 21% | 21% | 17% | 12.10% | 10.9% |
| Floorboards | 22% | 34% | 39% | 41.10% | 42.5% |
| Joinery/furniture | 1% | 2% | 3% | 2.90% | 2.7% |
| Decking & panelling | 4% | 3% | 3% | 4.10% | 4.9% |
| House framing | 30% | 26% | 24% | 22.90% | 21.8% |
| Pallets | 12% | 8% | 8% | 7.70% | 8.3% |
| High strength structural | 2% | 1% | 1% | 2.90% | 2.4% |
| Fencing/landscape | 8% | 5% | 5% | 6.30% | 6.6% |

Softwood plantation

| Product | 1995/6 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|----------------------------|--------|---------|---------|---------|---------|
| House framing | 71% | 77% | 73% | 73.50% | 72.58% |
| Joinery/furniture | 2% | 3% | 2% | 2.10% | 1.99% |
| Decking/panelling | 1% | 1% | 2% | 2.80% | 3.12% |
| Floorboards/bearers/joists | 3% | 2% | 3% | 2.70% | 2.58% |
| Fencing/landscape | 7% | 6% | 7% | 7.00% | 7.90% |
| Other preservation | 1% | 1% | 3% | 3.00% | 3.23% |
| Unseasoned | 14% | 11% | 10% | 8.80% | 8.60% |

Land available for harvesting (ha)

| 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|------------------|------------------|------------------|------------------|------------------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 13,500 | 21,728 | 13,305 | 32,905 | 36,285 |
| 1,368,000 | 1,190,416 | 1,186,699 | 1,172,174 | 1,164,474 |
| 46,000 | 49,493 | 52,690 | 56,944 | 51,751 |
| 201,720 | 204,817 | 206,739 | 212,495 | 230,004 |
| 0 | 0 | 0 | 0 | 0 |
| 326,500 | 304,040 | 261,451 | 105,436 | 126,145 |
| 1,965,720 | 1,770,494 | 1,720,885 | 1,579,954 | 1,608,660 |



APPENDICES

APPENDIX 25 - VOLUME HARVESTED \$ 🌲 🌳

| Product | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 |
|---|------------------|------------------|------------------|------------------|------------------|
| Sawlogs and veneer logs (m³) | | | | | |
| Native forest hardwood sawlogs | 786,774 | 664,183 | 694,909 | 683,065 | 707,403 |
| Hardwood plantation sawlogs | 55,466 | 33,601 | 36,863 | 71,053 | 80,478 |
| Cypress pine sawlogs | 101,881 | 96,430 | 108,229 | 110,709 | 101,300 |
| Plantation softwood sawlogs | 1,648,790 | 1,306,614 | 1,449,940 | 1,578,085 | 1,859,732 |
| Plantation softwood veneer logs | 70,919 | 51,784 | 84,068 | 83,089 | 78,499 |
| Native forest hardwood veneer logs | 10,600 | 12,890 | 8,153 | 10,667 | 7,962 |
| Hardwood plantation veneer logs | 2,819 | 1,173 | 44 | 2,609 | 5,482 |
| Total sawlogs and veneer logs | 2,677,249 | 2,166,675 | 2,382,206 | 2,538,276 | 2,840,856 |
| Poles, piles and girders (m³) | | | | | |
| Native forest hardwood | 28,432 | 34,039 | 26,428 | 23,006 | 23,268 |
| Plantation hardwood | 5,479 | 4,175 | 3,141 | 2,566 | 8,129 |
| Total poles, piles and girders | 33,911 | 38,214 | 34,174 | 25,572 | 31,397 |
| Round timber (m³) | | | | | |
| Preservation plantation softwood | 56,422 | 57,780 | 69,749 | 47,293 | 45,595 |
| Preservation native forest hardwood | 11,169 | 2,633 | 291 | 0 | 0 |
| Mining timber hardwood | 1,834 | 1,805 | 0 | 0 | 0 |
| Total round timber | 67,591 | 60,413 | 70,040 | 47,293 | 45,595 |
| Pulpwood (tonnes) | | | | | |
| Native forest hardwood pulpwood | 503,546 | 533,113 | 391,340 | 540,760 | 491,292 |
| Plantation hardwood pulpwood | 82,660 | 66,498 | 42,631 | 40,571 | 35,040 |
| Plantation softwood pulpwood | 636,058 | 728,652 | 1,025,993 | 940,247 | 1,045,217 |
| Total pulpwood | 1,222,264 | 1,328,263 | 1,459,964 | 1,521,579 | 1,571,549 |
| Other | | | | | |
| Fencing/landscape/sleepers/firewood (m ³) | 7,575 | 7,444 | 174,369 | 147,785 | 40,309 |
| Total other | 7,575 | 7,444 | 174,369 | 147,785 | 40,309 |

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Thank you

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