



seeing

Social, Environmental and Economic Report 2000/01



State Forests of New South Wales

Who is State Forests of NSW?

State Forests of New South Wales is responsible for managing almost 3 million hectares of native and plantation forest on behalf of the people of New South Wales and for the sustained supply of timber to the community. As a Government Trading Enterprise, State Forests is responsible not only for delivering a financial return to the State of New South Wales but also for sustainably managing forests for a range of environmental and social values.

Contents

| | |
|--|----|
| Introduction to the <i>Seeing</i> Report | 2 |
| CEO Statement | 3 |
| 2000/01 Performance Summary | 4 |
| Report Structure | 6 |
| Social | |
| Forest Value 1 – Community Benefits | 8 |
| Forest Value 2 – Staff | 17 |
| Forest Value 3 – Cultural Heritage | 22 |
| Environmental | |
| Forest Value 4 – Biodiversity | 27 |
| Forest Value 5 – Forest Health | 36 |
| Forest Value 6 – Soil and Water Quality | 41 |
| Forest Value 7 – Compliance | 43 |
| Forest Value 8 – Forests as Carbon Sinks | 47 |
| Economic | |
| Forest Value 9 – Productivity | 51 |
| Forest Value 10 – Marketing and Sales | 57 |
| Seeing the Future | 64 |
| Verification Statement | 65 |
| Appendices | 66 |
| Feedback | 72 |

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State Forests of NSW is the registered trading name of the Forestry Commission of NSW, a Government Trading Enterprise of the Government of NSW.

“As a manager of forest resources,
we are in a unique position to
explore sustainable business
solutions. At State Forests, we are
seeing the way we do business
differently.”

Bob Smith, Chief Executive Officer State Forests of NSW



Introduction to the *Seeing* Report

This is our first *Seeing* report. It builds on three years of reporting on environmental and social values. The new name of the report, *Seeing*, reflects a broadening of the report to cover social, environmental and economic values ie. the SEE values.

This year, information is again provided on the environmental and social values of State forests but a number of new values and indicators have been added. These features have been developed through review of past reports as well as national and international reporting guidelines.

Why report?

State Forests produces this report to communicate with the community, staff and other stakeholders and to monitor our performance in managing public forests for a range of values.

The information presented in this report is intended to communicate our performance, over the last few years, against a set of values identified as being of particular importance to State Forests and our stakeholders. It is hoped that improved feedback mechanisms introduced this year will help us keep up-to-date with community and stakeholder issues.

The report also provides State Forests with the opportunity to consider key indicators of social, environmental and economic performance and change certain aspects of forest management. Annual monitoring and improved data collection for these indicators will continue to provide opportunity to assess levels of achievement in sustainable forest management. State Forests will continue to analyse the results to evaluate our progress towards sustainable forest management and our performance as a sustainable business.

What's new?

State Forests continues to report on the seven forest values assessed in previous reports. These were selected on the basis of:

- Values recognised in our Corporate Plan;
- Input from representative stakeholder groups;
- Input from staff;
- Reference to internationally recognised methods of measuring progress towards sustainable forest management through triple bottom line accounting;
- Consistency with state (eg State of the Environment), national (eg Regional Forest Agreement) and international (eg Montreal Process) reporting requirements.

This year a range of new forest values and indicators have been added. Staff, Compliance and Marketing and Sales have been included as forest values. Some indicators in these values have been drawn out of our annual report. Other new indicators are provided for harvesting efficiencies, social responsibility and product mix of timber harvested. New financial indicators have also been included such as expenditure on recreation and human resource management and training.

To better align our report with national and international corporate reporting guidelines, such as the Global Reporting Initiative and Environment Australia, a number of significant new initiatives have also been undertaken, such as:

- Independent verification and review of the report undertaken by Sustainable Investment Research Institute (SIRIS).
- A stakeholder consultation program, undertaken by SIRIS, to determine whether previous reports meet their expectations.
- A request for feedback included in the report.

A corporate commitment to sustainability

Sustainable forest management is the key to the continued success of State Forests as a commercial forestry organisation. As a Government Trading Enterprise (GTE) responsible for managing natural resources for a large number of values, it is a huge challenge to adequately measure and report our performance on an annual basis.

An increasing trend has been measuring and reporting performance against what has been called the Triple Bottom Line or TBL. A catch phrase for what is ultimately sustainable management, a balanced TBL is one which successfully maintains economic prosperity, environmental quality and social responsibility.

Accounting for and reporting on the TBL requires an organisation to monitor performance with measures that are transparent and verifiable, and are meaningful to managers as well as to all stakeholders. This report is just one of those steps State Forests is taking towards accounting for and reporting on its TBL.

CEO Statement



I am pleased to present *Seeing*, the inaugural sustainability report for State Forests of New South Wales. The concept of sustainability was first derived from forestry; whereby the harvest of trees should not exceed the growth of new trees. As a manager of forest resources, we are in a unique position to explore sustainable business solutions. At State Forests, we are seeing the way we do business differently. This report is one of the steps that the organisation is taking towards its goal of sustainable management of all forest values.

Why *Seeing*? This year's report draws on and enhances the Environmental and Social Values Reports that State Forests has produced for the last three years. It introduces a number of new approaches and strategies being undertaken by State Forests to achieve sustainable forest management in New South Wales. One of these is an increased recognition that understanding the relationship between social, environmental and economic (SEE) values in forests is essential to sustainable management of these important resources, the Triple Bottom Line. Balancing this relationship is the key to ensuring that all forest values can be provided to both current and future generations.

As an organisation State Forests has taken a number of significant steps towards a balanced Triple Bottom Line. Three quarters of the State forest estate has been assessed under comprehensive regional assessments, resulting in Regional Forest Agreements that provide a sustainable timber supply, and an extensive reserve system including substantial areas of State forest managed for specific environmental and social values. There has also been a significant increase in the extent of both the softwood and hardwood plantation estate, which will contribute not only to maintaining timber supplies but also important environmental services such as carbon sequestration and salinity amelioration.

In this report, we have significantly expanded our social reporting component with due recognition of the role of key stakeholders, particularly our staff, in forest management in New South Wales. Our commitment to meeting expectations with respect to corporate accountability is partially being met through ongoing stakeholder involvement in the development of this report.

In producing this report we hope to improve the transparency of the process through which we undertake management practices and the consequences of those management practices. In line with this objective, this year sees the verification of the report by an independent consultant for the first time. I believe this is a critical step in the development of the report, aiming to enhance the credibility of the report to our stakeholders and at the same time provide valuable feedback on future improvements and directions.

The path that we are taking towards sustainability in forest management is still evolving and State Forests recognises it is a process involving social, economic and environmental values that change over time. I sincerely hope that this report improves community understanding of the science of commercial forest management in New South Wales as well as highlighting some of the other important values for which the forests are managed on behalf of the people of this State, country and the world we all share.

Bob Smith

Chief Executive Officer
State Forests of NSW

2000/2001 Performance Summary

| SEE | Forest Value | Target | Indicator |
|----------------------|----------------------------|---|--|
| Social | 1. Community Benefits | Provide wide range of benefits that meet community needs and expectations. | 1. Social responsibility 2. Regional opportunities for public participation 3. Recreation 4. Expenditure on research and education 5. Indirect employment through forest dependent industries 6. Quantities of other forest products |
| | 2. Staff | Provide a safe and forward thinking workplace with management that meets staff expectations. | 7. Quality of management 8. Expenditure on human resource management and staff training 9. Health and safety |
| | 3. Cultural Heritage | Conserve and protect cultural heritage. | 10. Protection of recorded places, artefacts, sites and other structures |
| Environmental | 4. Biodiversity | Maintain the extent and distribution of native species of flora and fauna, across the estate. | 11. Extent of forest type – Native forests – Planted forests 12. Extent of native forest structure 13. Record of surveyed species 14. Habitat level of representative species |
| | 5. Forest Health | Manage healthy forests. | 15. Expenditure on introduced predators, feral animals and weed control 16. Percent of forest affected by agents that may change ecosystem health and vitality 17. Fire fighting and prevention |
| | 6. Soil and Water Quality | Clean healthy streams and stable soils. | 18. Soil erosion assessment – Area and percentage of forest harvested 19. Area and percent of forest managed primarily for catchment protection |
| | 7. Compliance | Compliance through effective harvest planning and operations. | 20. Regulatory compliance 21. Efficient harvest planning and operational compliance in native forest |
| | 8. Forests as Carbon Sinks | Expanding our contribution to reducing the greenhouse effect. | 22. Annual carbon sequestration in planted forest 23. Energy consumption 24. Material consumption and recycling |
| | 9. Productivity | Achieve sustainable productivity in all managed forests. | 25. Forest available for timber production 26. Plantation establishment 27. Percent of planted forest effectively stocked 28. Mean annual growth of planted forest 29. Removal of sawlogs compared to allowable volume 30. Percent of native forest regenerated |
| | 10. Marketing and Sales | Providing high-value products to meet customer demands. | 31. Volume of timber harvested 32. Product mix of timber harvested |

| Page | Results |
|------|---|
| 9 | Over \$97,000 in corporate sponsorship; over \$9,000 in staff donations. |
| 11 | 1,606 various regional community forums attended. |
| 12 | 601 recreational facilities and 892 formal events. |
| 13 | \$7.1 million spent on research and \$4.6 million spent on education. |
| 14 | 7,270 people indirectly employed through State Forests' activities. |
| 15 | Various quantities, including water, grazing, beekeeping, seedling sales, firewood. |
| 18 | Over 1,100 people directly employed by State Forests. |
| 19 | Over \$3.8 million on human resource management and over \$2.6 million on staff training. |
| 20 | 76 occupational health and safety (OH&S) meetings, lost time accident frequency rate of 18.6. |
| 23 | 4,516 sites of cultural significance to the Aboriginal community protected and 482 non-Aboriginal heritage sites protected in State forests. |
| 29 | Total forest estate managed by State Forests of 2,853,500 hectares. 2,495,500 hectares of native forest estate. 358,000 hectares of gross planted forest estate. |
| 29 | 21% Regrowth, 24% Mature, 6% High Conservation Value Old Growth, 4% Rainforest and 45% Un-assigned. |
| 30 | 59 targeted species surveyed prior to harvesting, with 2,490 sightings. |
| 32 | 286,300 hectares of Koala habitat, 59,900 hectares of Greater Glider habitat and 17,900 hectares of Squirrel Glider habitat in Regional Forest Agreement regions. |
| 37 | Over \$1 million spent on feral animal and weed control. |
| 37 | 3.1% of new hardwood and 3.25% of all softwood plantations with significant levels of insect infestation, fungal attack or nutrient deficiency that could cause deleterious affects. |
| 39 | 2.4% of all State forests burnt by wildfire; and \$8.2 million spent on fire prevention and control. |
| 42 | 82,700 hectares or 2.9% of State forest harvested. |
| 42 | All State forest managed for catchment protection with 10.8% of State forest managed for special emphasis catchment protection. |
| 44 | 3,400 internal compliance check sheets conducted; 1,500 recorded non-compliance incidents, majority of which were accidental; 5 fines issued. |
| 45 | 2,720 flora and fauna surveys and 261 soil and water surveys undertaken in native forest; over \$5.5 million spent on harvesting supervision and environmental compliance in native forest. |
| 48 | 2.86 million tonnes of carbon dioxide (CO ₂) equivalent sequestered by hardwood and softwood plantations. |
| 49 | Over 10,000 tonnes of CO ₂ emitted through electricity and fuel consumption; and 12.5% of electricity sourced from green power. |
| 49 | 14,000 reams of paper purchased; 83% recycled after use. |
| 52 | 1,770,500 hectares available for timber production on State forests. 577,200 hectares in Dedicated and Informal Reserves on State forests. An additional 505,800 hectares estimated as protected from harvesting. |
| 52 | 3,867 hectares of new softwood plantations and 3,392 hectares of new hardwood plantation. |
| 53 | 95% of hardwood and 96% of softwood plantation successfully established. |
| 54 | Mean annual increment for softwood plantations of 16.9m ³ /ha/yr. |
| 54 | Actual annual yield was 82% of allowable yield from native forests and 75% from softwood plantations. |
| 55 | 95% of surveyed harvested area successfully regenerated based on 24 regeneration surveys. |
| 61 | 2.27 million m ³ of mill logs and 1.33 million tonnes of pulpwood harvested in planted and native forest. |
| 62 | Increase in the proportion of volume harvested going to high value products. |

Report Structure

The report is structured around our three key SEE performance areas:

- **Social:** building partnerships and generating economic and social benefits within the community, especially for rural and regional communities; developing and valuing our staff.
- **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.
- **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.

Our policies

For each SEE performance area, State Forests' policies that shape the way we undertake our business are highlighted.

Forest values

A range of forest values are reported on to measure our SEE performance. All forest values used in previous years' reports are included and the forest values of Staff and Marketing and Sales are included for the first time. Although previously reported, Compliance is also formally recognised as a forest value. Each forest value is described, along with highlights and stories in relation to State Forests' performance and activities associated with that particular forest value.

Indicators

The aim of the indicators is to help link management activities and operational practice to specific SEE forest values. The cost of undertaking particular social and environmental management activities is also reported, some for the first time. State Forests will be progressing our social and environmental accounting method in the future.

Each indicator is defined and the trends comparing this year's results to the previous three years are described.

Targets and benchmarks


The nature of forest management and information about forest and forest ecosystems makes it difficult to set realistic and meaningful numeric targets for these values. As the amount of information State Forests collects continues to grow we will be able to establish management targets and benchmarks which can be used to examine our performance.



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 1. Community Benefits

A person wearing a helmet and a backpack is riding a mountain bike through a forest. The image is in a monochromatic teal color. The person is in the center, leaning forward on the handlebars, with their legs pedaling. The background is a dense forest with many thin tree trunks and some foliage.

“It’s an opportunity for young people to get out and about and appreciate how scenic the forests are and the breadth of fauna and flora”

Rob Finlay, Community Liaison Officer
in relation to a Venturer Scouts camp at Sunny Corner State Forest

*Mountain biking –
Getting some air in
Bondi State Forest,
Monaro Region.*

State forests are forests for the community. Not only do they provide opportunities for a range of recreation and education activities, but managing such a large and widespread resource provides many opportunities to form constructive community partnerships and to build our stakeholder relationships.

This year information has been included on our external stakeholders, partnerships with other organisations, community relationships and initiatives and public education. State Forests has also undertaken a targeted stakeholder consultation program. SIRIS, who undertook the external verification of this year’s report, were also engaged to contact the original group of stakeholders involved in developing the report indicators as well as a range of State Forests’ staff. State Forests wanted to find out whether the report was meeting their needs and addressing their concerns and we thought it would

be beneficial to have an independent party discuss these issues with them. Results of this stakeholder consultation are provided in the verification statement.

State Forests has formed partnerships with various groups to sustain public involvement in determining the role of forests and defining sustainability. These partnerships with regulators, other agencies, educational institutions and the community will be developed further.

A new indicator reported this year is social responsibility in recognition of the organisation’s aim to be a good corporate citizen.

Indicator 1. Social responsibility

Description

State Forests aims to be a good corporate citizen. Different communities have different values and as a result the ways in which our staff contribute to these communities vary. To try and better understand this relationship, an indicator has been included this year which examines charitable and voluntary contributions made by State Forests' staff and the organisation as a whole. This includes corporate sponsorship and donations, voluntary activities and community partnerships as well as charities that staff choose to support through their own fund-raising initiatives. State Forests also recognises the invaluable role of community volunteers who donate their time and efforts to assist State Forests in undertaking various activities, particularly at Cumberland and Strickland State Forests.

Trends

As a new indicator it is not yet possible to identify trends (Table 1). However, it is hoped that in the future this indicator will develop to provide a picture of how State Forests is developing as a corporate citizen.



Sculpture by Adam Laerkesen sponsored by State Forests in the "Sculpture by the Sea" competition.

Table 1. Social responsibility

| 2000–2001 | Number | Amount (\$) |
|-------------------------------------|--------|-------------|
| Corporate sponsorship and donations | >50 | 97,924 |
| Charitable donations made by staff | 10 | 9,099 |

Corporate sponsorships and donations

State Forests provided financial contributions via corporate sponsorships and donations in excess of \$97,000 as well as unmeasured time and products to over 50 community groups, schools and sporting events during the year.

Some of the corporate initiatives undertaken by regions in the past year include: contribution of two fire tankers to the local Kids for Cancer Parade by Monaro Region, participation in the development of the Baradine Community Forest Recreation Area by staff in Western Region, Riverina Region staff organised participation in Clean-up Australia Day while North East Region employed workers from Coffs Harbour Challenge. Coffs Harbour Challenge is a community group that supports people with intellectual disabilities. By employing them to plant trees for Koala habitat in Pine Creek State Forest, State Forests received a useful environmental service while the participants received important work experience. A large number of staff also volunteered their time in programs such as wildlife schools, community education programs, woodworking shows, mountain bike races and car rallies.

Corporate citizenship

It is an aim of State Forests to be a good corporate citizen. As a State Government agency, State Forests recognises that as an organisation we have social, cultural, environmental and economic responsibilities to the community in which State Forests seeks a licence to operate. Policies such as our Good Neighbour Policy are put in place to help us be a good corporate citizen.



Several State Forests' staff participated in the 2001 "World's Greatest Shave for a Cure" to raise money for the Leukaemia Foundation.

Of particular note during 2000–2001 was State Forests' support of around 20 staff to volunteer during the Sydney 2000 Olympic and Paralympic Games (see story page 15). State Forests made an in-kind salary contribution of \$44,957 or equivalent staff time of 2,473 hours in supporting these staff.

Charitable donations made by staff

State Forests' individual staff members are aligning themselves with particular charities on a team basis through social functions and fundraisers. The enthusiasm generated for such activities is growing and has the added bonus of bringing people together across the organisation. Other staff choose to personally nominate a charity they wish to support and make regular contributions direct from their salary. In the past year individual staff and social groups donated over \$9,000 to more than 10 charities around the State. State Forests stresses this is the result of individual actions by staff rather than corporate policy. However, State Forests would like to publicly applaud the efforts of those staff.

Community volunteers

State Forests also recognises the important contribution of community volunteers who work in partnership with State Forests in performing a wide range of socially and environmentally important tasks. State Forests has been involved for many years with a number of volunteer groups such as Landcare, volunteer bushfire brigades, natural history societies, Wildlife Information and Rescue Service (WIREs) and various other special purpose or interest programs. A specific example of this is the community volunteers who participate in the Cumberland Volunteer Ranger Program (see story page 16).

These volunteers carry out a range of duties at Cumberland State Forest including bush regeneration, flora and fauna surveys, guided activities, water surveys, education, children's activities and social activities. There are currently 30 active Cumberland volunteer rangers. Each volunteer aims to contribute 8 hours each month (96 hours per year) to be considered an active participant in the program, however several volunteers contribute many more hours. In 2001, the International Year of the Volunteer, State Forests will be providing the Cumberland ranger volunteers with a special gift and awards ceremony to recognise their contribution.

What is a Regional Forest Agreement?

A New South Wales (NSW) Regional Forest Agreement or RFA is an agreement between the Commonwealth and NSW Governments on the future use and management of the State's native forests.

A RFA is a 20-year agreement with three main objectives:

- **to protect environmental values in a world class Comprehensive, Adequate and Representative (CAR) Reserve system of national parks and reserves.**
- **to encourage development of an internationally competitive timber industry; and**
- **to manage native forests in an ecologically sustainable way.**

Indicator 2. Regional opportunities for public participation

Description

State Forests is committed to involving the public, particularly key stakeholders, in forming our management decisions for the public forests of NSW. Our staff attend meetings and community forums during the course of the year where land and forest management issues are raised and discussed. The attendance level indicates our commitment to listening to and involving the public in decision making.

Trends

Table 2 summarises the range and number of community forums attended by State Forests at the regional level (full details are presented in Appendix 1). The decrease in the number of community forums attended during the year reflects the end of an extensive period of community consultation during the Regional Forest Agreements. However, the consultation in the development of community bushfire management strategies, relationships with stakeholders and community education programs continue to be important vehicles for the expression of community interest in matters relating to the management of State forests.

Community attitudes and feedback

State Forests is also investigating ways of evaluating community attitudes including monitoring correspondence to the Minister for Forestry, Bush Telegraph subscriptions, calls to Cumberland State Forest and telephone complaints. Under the Integrated Forestry Operations Approval, the Environment Protection Licence requires each State Forests' Region to keep a register of complaints received alleging water pollution and licence breaches within that Region. The Licence also requires State Forests to operate during its opening hours a telephone complaints line for the purpose of receiving any complaints from members of the public. The complaints line telephone number is 1800 102333. The register of complaints or hotline could be a future means of monitoring stakeholder feedback as well as our own performance. This year a feedback form has also been included in this report as a means of gaining reader feedback and comments received will be reported in next year's report.

Table 2. Number of regional community forums attended by State Forests

| | 1997-98 | 1998-99 | 1999-00 | 2000-01 |
|---------------------------------|---------|---------|---------|---------|
| Total community forums attended | 1,027 | 1,954 | 2,099 | 1,606 |

Murrumbidgee Wetland Working Group members cooperate on a project to restore the Turkey Flat Lagoons. The working group is comprised of local land owners and staff from state agencies and is supported in this project by State Forests, Murrumbidgee Irrigation and the Department of Land and Water Conservation.



Outcomes of the Southern RFA

The Southern RFA was signed in April 2001 by the NSW and Commonwealth Governments.

The outcomes of the RFA included:

- a CAR Reserve system covering more than 1.4 million hectares.
- the supply of a minimum of 48,500 m³ per annum of high quality large sawlogs in the South Coast sub-region and a minimum of 48,000 m³ per annum of high quality large sawlogs in the Tumut sub-region for 20 years.
- improvements to forest management with the key objective of ecologically sustainable forest management of reserves and production forests.

Indicator 3. Recreation

Description

Recreation facilities and maintenance of a suitable forest environment for recreation activities requires ongoing devotion of resources. Monitoring change in the number of these facilities, as well as the area zoned primarily for recreation and authorised recreation activities, are good indicators of the provision of recreation in State forests and how well State Forests is meeting the requirements of communities. State Forests expenditure on managing recreational facilities is also an indicator of our commitment to managing this value.

Trends

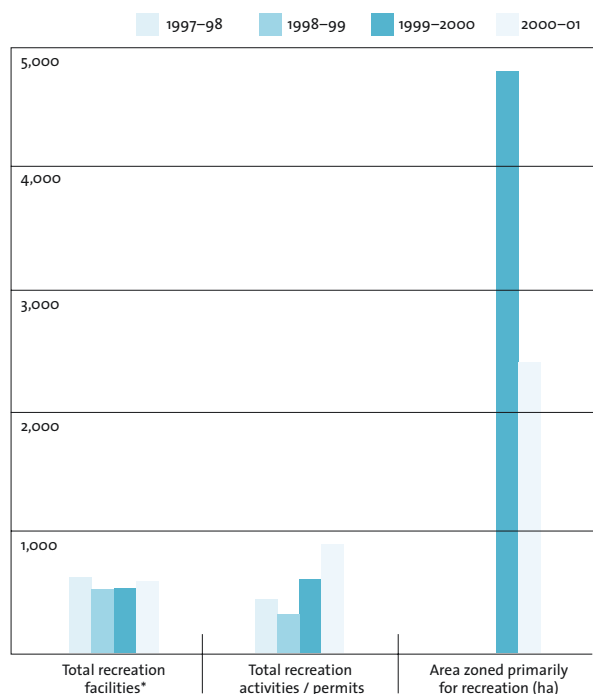
Figure 1 and Appendix 2 show the number of recreational facilities and permits issued for organised recreation activities during the last four years.

A reduction in facilities and area zoned primarily for recreation over the past years can be attributed to the transition of substantial areas of land to national park. This trend continued this year following the completion of the Southern Regional Forest Agreement.

However, the number of organised activities has increased significantly in this time period. This has largely been due to the continued success of the organised educational programs in Cumberland State Forest (see story page 16) and Hunter Region. Other activities such as mountain bike rallies, horse treks and endurance rides also contributed to this increase. This encouraging trend highlights the continued importance of State forests for recreation and therefore a need to maintain and enhance this value in the future.

Funding for the provision of recreational facilities in State forests is partially provided through Community Service Obligation (CSO) grants from the State Government. As an organisation State Forests is committed to developing recreational opportunities for the community and has spent over \$2 million on managing the recreational values of forests this year. This is in addition to the time volunteered by staff to support recreational programs in their regions.

Figure 1. Recreational facilities provided and organised events



* Note the 2000-01 number includes 250 informal facilities not included in previous years (see Appendix 2)



*State Forests' Ecologist
Frank Lemkert leads a team
tracking the Giant Barred
Frog near Dorriga.*

Indicator 4. Expenditure on research and education

Description

Monitoring of expenditure on research and education demonstrates our direct commitment to public education and forest research. This year the method for accounting on this indicator has been adjusted to better reflect expenditure across the organisation. It now includes all expenditure on public education and information service activities associated with the CSO program as well as the costs associated with operating State Forests' Public Affairs Branch and Cumberland State Forest that are funded from outside the CSO program.

It should be noted that expenditure on forest research only captures expenditure by Forest Research and Development Division. The indicator does not capture money spent by other State Forests' Divisions or Regions on research activities or money spent by the organisation to support university studies undertaken by staff, however, we are aiming to capture this information in the future.

Trends

Table 3 details the public education and research expenditure for the whole organisation.

The increase in expenditure on public education over the last year is due primarily to a change in the definition of the indicator. In previous years, this indicator was largely associated with operating State Forests' Public Affairs Branch and Cumberland State Forest in Sydney, which is principally designated for education purposes, outdoor education schools, forest education manuals for schools and other education publications. However, this year, as highlighted above, this indicator has been broadened to include all expenditure on public education and information service activities associated with the CSO program across State Forests.

This indicator reflects the research budget expended by State Forests' Research and Development Division. This expenditure allows us to continue a long history of active research into native and planted forests in NSW.

Table 3. Annual expenditure on research and education

| Year | State Forests' expenditure (\$M) | |
|-----------|----------------------------------|-------------------------|
| | Research | Education |
| 1998/99 | 7.2 | Not previously reported |
| 1999/2000 | 7.1 | 2.8 |
| 2000/2001 | 7.1 | 4.6 |



Beekeeping – an important source of regional employment that is dependent on forests.

Indicator 5. Indirect employment through forest dependent industries

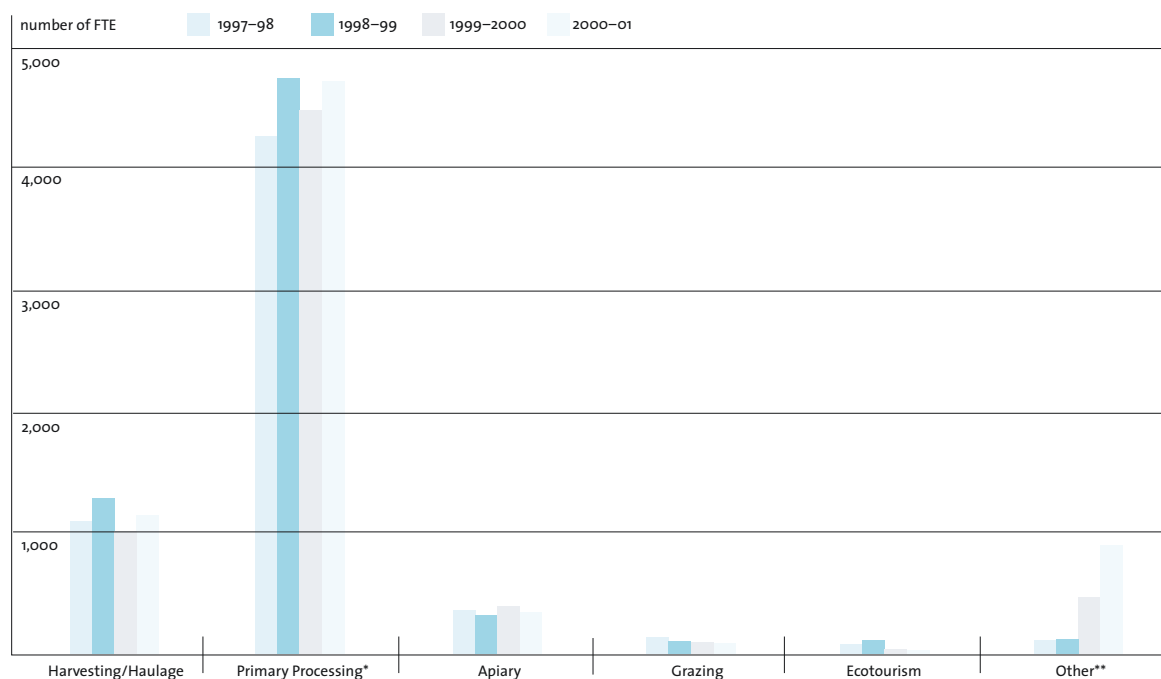
Description

Forest management activities are an important source of employment to the rural sector of NSW. Tracking changes in this value helps us determine how well State Forests is providing a source of employment to the regions in which we operate and helps us understand the ways in which people derive income through employment in industries that depend on forest resources.

Trends

Figure 2 demonstrates that forest products and miscellaneous timber operations continue to be an important source of regional employment. The numbers of individuals employed in industries directly dependent on the sustained supply of timber from State forests (ie. harvesting/haulage and primary processing) has remained relatively stable over the last four years, fluctuating between 5,500 to 6,000 Full Time Equivalent (FTE) jobs. This reflects our ongoing commitment to growing and supporting the timber industry around NSW.

Figure 2. Indirect employment from State forests by major categories



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

** Includes gravel extraction, forest product removal and miscellaneous timber harvesting.

The numbers employed through the apiary industry, dependent on State forests, has declined in the past year due to a reduction in available apiary sites as a result of the Southern RFA (see indicator 6). These sites were largely transferred to the National Parks and Wildlife Service (NPWS) and it is possible that, in reality, the industry has not experienced any major decline in employment numbers.

Last year an unexplained reduction in the number of people employed in eco-tourism in State forests was identified. This trend has continued and is supported by a similar decline in the number of eco-tourism tours (Appendix 2) for which permits were issued.

Indicator 6. Quantities of other forest products

Description

Forests provide many products and services other than timber. By tracking the sale of specific products from forests it is possible to determine the extent to which they remain an important multiple-use resource. This indicator summarises the range and quantity of the other forest products provided over the last four years, including minor wood products. Our objective is to ensure our forests continue to provide a diversity of products and benefits to the community. Water production from State forests is considered in Forest Value 6 – Soil and Water Quality.

Trends

Appendix 3 shows the quantities of non-timber forest products purchased from State Forests in communities around NSW. Demand for the majority of products has remained relatively stable with only minor fluctuations, most likely due to seasonal variation in resources resulting in changes in demand, for example, of apiary sites or seed collection permits. The area of land available for grazing decreased by about 50,000 hectares due to the forest management zone changes associated with the RFAs.

The spirit of the Games in the forest

The Olympic spirit hit State Forests with gusto in September 2000 with many staff members taking part in the numerous Olympic celebrations. Taree Aboriginal heritage officer Jeremy Saunders entertained the millions of Olympic visitors to Darling Harbour with his didgeridoo over the four-week Olympic celebrations. Bombala forester and Olympic cross-country skier, Anthony Evans, helped local schools and scouts plant 2,000 trees and shrubs at Huon Hill near Wodonga as part of the Olympic Landcare project. The tree planting was an initiative of the Natural Heritage Trust and SOCOG to improve degraded areas along the torch route. Anthony was also a torchbearer carrying the Olympic flame when it passed through Albury-Wodonga. Anthony passed the flame onto his father.

Another proud State Forests torch bearer was Eden computer systems officer Graham Cooper. He carried the flame on Day 94 of its journey through Bega and was nominated to carry it because of his service to the community.

Other ready and willing participants were the State Forests staff who worked with SOCOG, ORTA, OCA, OSCC and other Olympics organisations for the period of the Games as volunteers and officials, many participating via the Government's staff re-assignment initiative. More than 20 staff volunteered their time, undertaking a range of activities from team drivers, crowd control and 'field of play' management to performing and stage management in the opening and closing ceremonies.



Some of State Forests' staff who participated as Olympic volunteers.



Students' understanding of ecologically sustainable resource management can be enhanced with an excursion to Cumberland State Forest.

Table 4. Number of people participating in programs at Cumberland State Forest

| Activity | 1998–99 | 1999–2000 | 2000–01 |
|---------------------------------|---------------|-----------|---------|
| School – lower primary | 1,197 | 962 | 993 |
| School – upper primary | 1,585 | 1,979 | 2,059 |
| School – secondary | 753 | 834 | 906 |
| At school visits | 180 | 1,805 | 1,054 |
| School holiday activities | 1,008 | 1,288 | 1,112 |
| Community forest activities | 1,065 | 1,282 | 1,268 |
| Community groups | 782 | 801 | 1,150 |
| Other childrens' activities | 1,235 | 2,107 | 2,369 |
| Community bush care | 257 | 200 | 729 |
| Information services – by phone | Not available | | 2,730 |
| Information services – by email | Not available | | 1,823 |

Community and education programs at Cumberland State Forest

Cumberland State Forest is one of Sydney's unique natural attractions. It is a 40 hectare, picturesque native forest in the heart of the Hills District. Cumberland State Forest contains an information centre, forest shop, native plant nursery, forest studies centre, research library, walking trails and picnic areas.

Cumberland has continued to expand both its community and school based programs to enable more visitors to benefit from the diversity of State forest values and experiences.

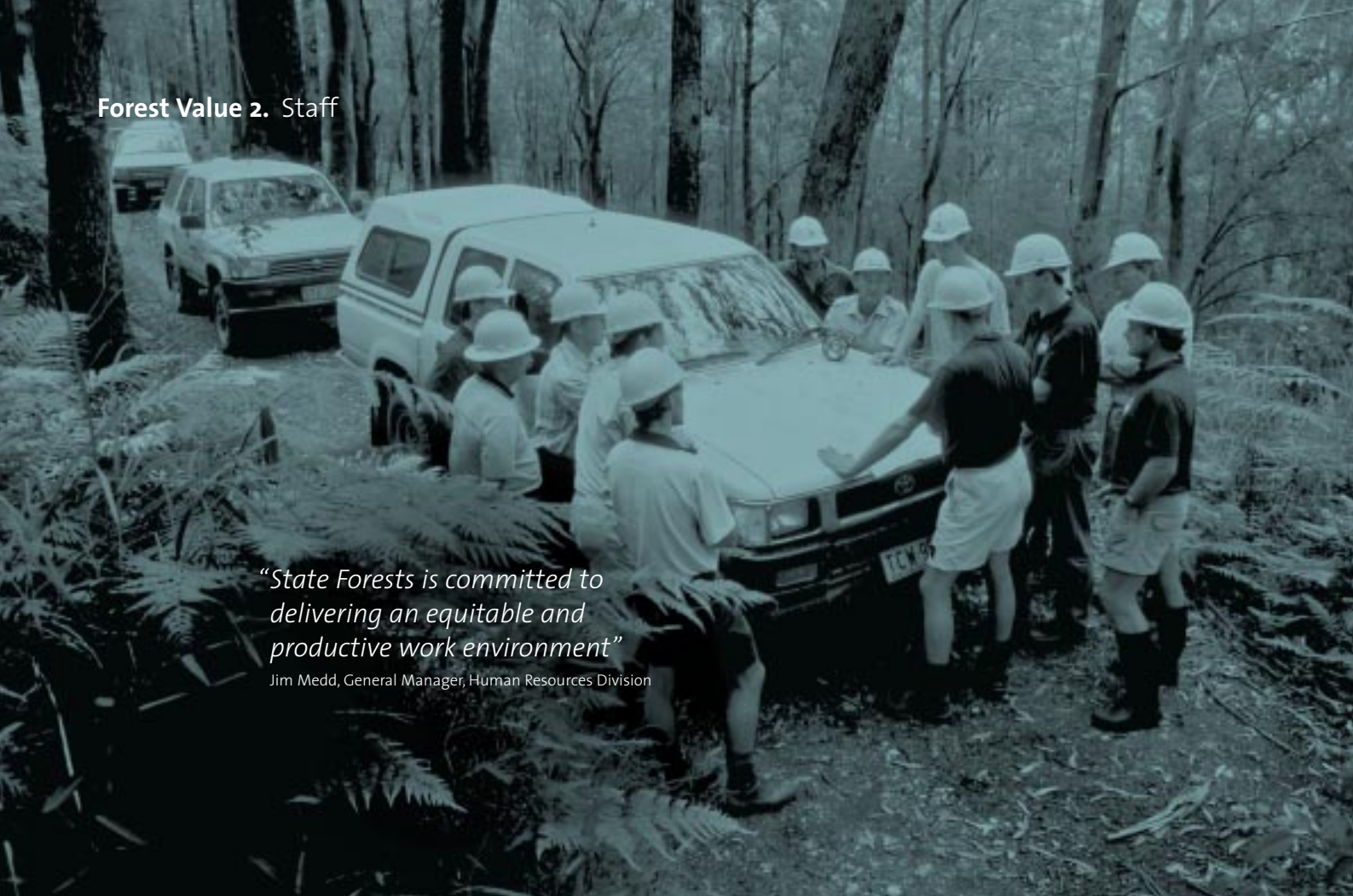
Cumberland's quarterly activity program continues to deliver quality forest based activities for families while the children's activity program has experienced increasing popularity.

More community volunteers now participate in Cumberland's Bushcare activity, which has extended the forest health and environment programs at Cumberland. The statewide information service continues to provide information packages to phone and e-mail enquiries.

New school education programs have been designed to support the new curriculum unit 'State forests and national parks' for year 3 and 4 students. Further, year 5 and 6 students were given the opportunity to visit a rainforest in Strickland State Forest as part of the curriculum unit on 'Rainforests'. The number of people participating in programs at Cumberland State Forest is presented in Table 4.

If you would like further information on Cumberland State Forest visit State Forests' web site at www.forest.nsw.gov.au/cumberland email cumberland@sf.nsw.gov.au or telephone (02) 9871 3377 or 1300 655 687.

Forest Value 2. Staff



"State Forests is committed to delivering an equitable and productive work environment"

Jim Medd, General Manager, Human Resources Division

State Forests' staff working in the field.

This is the first time that staff members have been included as a value in the report. It has been introduced in recognition that staff are our most valuable resource. Some staff indicators have been drawn out of our annual report, while additional ones such as wage standards and expenditure on human resources management and training have been included for the first time.

The Human Resources Division within State Forests is responsible for the management and well being of staff within the organisation. The fundamental purpose of the Division is:

- to promote strategic leadership and a best practice professional advisory service on human resources issues.
- to promote and develop a corporate environment where both the organisational structure and the skills held by staff enable the achievement of professional and technical excellence.
- to contribute to continuous improvement in customer and community awareness and satisfaction.
- to nurture a corporate culture which includes a safe, rewarding, equitable and ethical working environment with high morale where staff achievements are recognised.
- to achieve excellence in the management of safety and rehabilitation that aims to be the best in the Australian forest industry.

State Forests values the continued contribution and growth of its employees and this has been recognised through the introduction this year of a new formal Staff Development Program (SDP). The Program was introduced in response to an Employee Attitude survey undertaken in 1998 with the aim of developing an effective performance management system to support leaders in creating a positive work environment for employees.

The program aims to develop a collaborative approach to performance improvement between employees and their supervisor. The State Forests' SDP has been recognised and published in the May 2001 edition of *HR Monthly*, a journal published by the Australian Human Resources Institute. The article outlines how it is seen as leading edge in the industry.

Results of the implementation of this program will be provided in next year's report.



State Forests employs Aboriginal Cultural Heritage officers to ensure cultural heritage issues are integrated into forest management.

Indicator 7. Quality of management

Description

The quality of an organisation as a workplace can be assessed using a number of indicators. The number of staff directly employed by State Forests is used as an indicator of the organisation's ability to recruit and retain employees. This in turn is a reflection of the quality of management and nature of the organisation as a workplace.

It is also recognised, although hard to measure, that maintaining ethical practices amongst staff is an important workplace value.

This year data is provided against the key areas of representation of equal employment opportunity (EEO) groups within levels, representation and recruitment of Aboriginal employees and employees with disability. State Forests' wages are also compared to the national legal minimum wage and the national average weekly earnings for the public sector.

Trends

The number of staff directly employed by State Forests has fluctuated over the last two years but overall has remained relatively consistent at approximately 1,100 full time equivalents. Variations have largely been as a result of temporary personnel

Commitment to ethical practices

The NSW Government has made a commitment to ethical practices through which the community is entitled to expect the business of the State to be conducted with impartiality and integrity. State Forests has in place: a Commitment to Ethical Practices policy, a Fraud Control and Corruption Prevention Strategy and a Code of Conduct for State Forests' employees. This code includes standards for behaviour, important rights and guidelines for promoting public confidence in the administration of State Forests.

employed during extensive assessment periods, such as the Regional Forest Agreement process. There have been equal declines in the number of positions filled by men and women, and there has been an increase in the number of staff identifying themselves as being from racial, ethnic and ethno/religious minority groups.

Within the overall wage groups represented in the organisation there has been relatively little change in the representation of men and staff identifying themselves as from Racial, Ethnic and Ethno/Religious Minority Groups, as a proportion of those sections of the workforce. While there has been an overall decrease in the size of the workforce, the proportion of women in middle and senior management has increased. There has also been a slight increase in the number of staff from Aboriginal and Torres Strait Islander backgrounds (Table 5). Appendix 4 and Appendix 5 provide further details of this indicator.

Overall the staff employed by State Forests enjoy an above average wage level, with the lowest employee wage (\$446 per week (pw)) favourably compared to the national legal minimum wage (\$413pw). The trend estimates for the average weekly earning over the financial year ranged from \$917.20 to \$952 pw for full time adults in the public sector across Australia. ABS data, August 2000-May 2001 quarterly figures). The average weekly earnings for State Forests' permanent staff for the financial year was \$934 pw.

State Forests would like to congratulate staff who have given a significant contribution to the organisation in terms of length of service. During the year, two staff members achieved 40 years service and another 17 staff members reached the milestone of 25 years service. The organisation has around 100 staff members that have given at least 30 years service. In future reporting years we plan to develop the length of service as an indicator in the report.

Table 5. Representation of EEO groups within levels

| | Total staff | Women | REERM* | Persons with disability | Aboriginal and Torres Strait Islanders |
|-----------|-------------|-------|--------|-------------------------|--|
| 1999–2000 | 1,218 | 253 | 45 | 74 | 26 |
| 2000–2001 | 1,130 | 212 | 51 | 73 | 30 |

* Racial, Ethnic and Ethno/Religious Minority Groups

Equal employment opportunity

As an equal employment opportunity (EEO) employer, State Forests embraces the principle of diversity and seeks to recognise and benefit from the ideas and different ways of working and decision making which are afforded by a diverse workforce. State Forests has in place an Equity Policy and an Ethnic Affairs Priority Statement, which must underpin the development and implementation of all policies and practices.

Employee assistance and training

State Forests is committed to continuously developing an effective and efficient workforce that is capable of achieving State Forests' policies and corporate objectives. The policies in place to assist employees include: Staff Induction, Conditions of Employment, Staff Development Program, Employee Skill and Competency Training, Workplace Safety, Drugs and Alcohol Policy, Grievance and Dispute Resolution Guidelines, Study Assistance, Harassment Policy and Employment for People with a Disability.

Indicator 8. Expenditure on human resource management and staff training

Description

The quality of management is also reflected in opportunities provided to staff for development and training. To examine this issue a new indicator has been added which presents expenditure on human resources management and training opportunities for staff.

Trends

In the past financial year State Forests expended over \$3.8 million on human resource management services. This includes all activities associated with the management of personnel, including policy, recruitment and general administration of staff. As this is a new indicator, it is not possible to report trends this year. State Forests hopes to build on this in future reports to develop a picture of the investment State Forests makes in the development of its staff.

The organisation recognises that employee skill and competency development is an investment in people and essential to the continued success of State Forests and the career growth of employees. State Forests spent over \$2.6 million on providing opportunities for training and career development (see story page 21). Some of the highlights for State Forests' staff, during 2000–2001 include:

- 10 employees graduating from Creswick with an Advanced Diploma in Forestry;
- More than 360 staff now graduated from the 'People Skills for Supervisors' course;
- 80 employees completed the 'Work Skills for Supervisors' course;
- A number of staff participating in full-time study in Masters and PhD programs as part of the State Forests' Postgraduate Study Assistance Program;
- Over 1,000 contractors trained in the 'A Short Course in Forest Harvest Operations' to date;
- Two former fieldworker employees have undertaken the Undergraduate Study Assistance Program and are now employed as Foresters;
- Computer based training is available for all staff;
- Study Assistance Policy – recognising that people train/study out of work time and assisting them; and
- 40 of State Forests' employees are Nationally Accredited Assessors for competencies such as chainsaw, four wheel driving and log grading.



State Forests' staff on a chainsaw training course.

Fire officer wearing personal protective equipment while undertaking a hazard reduction burn.



Operational health and safety

State Forests values the health and safety of its employees and of those people associated with activities undertaken within State forests. State Forests invests in a number of programs to ensure a safe and sustainable workplace.

Operational Health and Safety (OH&S) management committees operate at a number of levels throughout the organisations. Each Region and Division is responsible for the health and safety of all of its employees. A number of new initiatives have evolved out of the different workplace requirements and activities undertaken at regional levels.

Indicator 9. Health and safety

Description

Maintenance and protection of staff health and safety is a core social indicator. Some occupational health and safety issues, particularly those relating to lost time accidents and workers compensation claims have previously been reported in the annual report. However, because State Forests sees injury prevention and maintenance of a healthy workforce as a priority, information has been included about safety initiatives as well as injury statistics in this report.

Trends

Table 6 presents the number of safety meetings, lost time accidents, fatalities and workers compensation claims for State Forests' staff.

Table 6. Number of safety meetings held, number of lost time accidents and fatalities, number of workers compensation claims and cost

| OH&S Issue | 2000–2001 |
|--|--------------|
| Number of safety meetings held | 76 |
| Number of lost time accidents | 42 |
| Lost time accidents frequency rate | 18.6 |
| Fatalities* | 0 |
| Number of workers compensation claims finalised | 19 |
| Cost of workers compensation claims finalised (\$) | \$ 1,007,195 |
| Number of new workers compensation claims lodged | 14 |

* Fatalities reported are for State Forests' employees only and do not include individuals employed by entities other than State Forests as mill workers or timber contractors.

The John O'Rourke Safety Award is presented to the Region/Division that records the lowest Lost Time Frequency Rate for the financial year. The Research and Development Division, South Coast Region and Riverina Region have jointly won the award this year.

State Forests' staff receive scholarships to attend international seminar

Joseph O'Gara, Resources Officer South East Region and Simon Hemer, Strategic Planning Manager, Mid North Coast Region attended the 16th International Seminar on Forest and Natural Resources Administration and Management, August 20 to September 8 2000. The following is a report from Joseph O'Gara.

"The seminar consisted of 24 participants from 15 different countries. The seminar started in Colorado and travelled to Yellowstone, Wyoming, Montana, Atlanta, North Carolina and finally Washington DC. The objectives of the seminar were to demonstrate the principles and values of integrated resource management and the requisites for institutional cooperation to meet diverse forest management goals; to exhibit the biological, social, economic and organisational factors that influence natural resource management decisions on local, regional, national and international levels; and to generate an international dialogue in key issues in natural management to promote an awareness of universal problems or opportunities.

The tour was of the USA but the well blended group of internationals allowed me to also view forest management from a world perspective. The conclusion of my tour is as follows. Forestry is a blend of politics, legalities and sciences. It is the management of forests for people whose demands and desires for management offer no clear voice and is ever changing. The challenge of arriving at a solution to a complex problem, which is the task of forest and resource managers around the world, cannot be done alone. We can't manage the forests in isolation from people, other land or the rest of the world. Any solutions developed must be flexible and not close off any future management options. And we have to develop measures, and measure, to display the outcomes of our management. Finally, we have to understand, and continue to seek understanding, of the dynamic natural processes of the forest we manage. This knowledge has to be disseminated to the general population so they can then understand the decisions made.

The scholarship was very worthwhile and it was a great opportunity. The group dynamics and varied itinerary made the trip such a success for me."

24 participants from 15 different countries attended an international seminar in the USA to discuss the principles and values of integrated resource management.



Forest Value 3. Cultural Heritage

"I speak to community groups about Aboriginal heritage in State forests and take interested people into the forest to show them the work we are doing to find and preserve sites"

Jeremy Saunders, Aboriginal Cultural Heritage Officer,
Mid North Coast Region

*One of the many
Aboriginal sites
protected on State
forest.*

Cultural heritage encompasses the qualities and attributes of places that have aesthetic, historic, scientific or social value for past, present or future generations. These values may be seen in a place's physical features, but importantly can also be intangible qualities such as people's association with, or feelings for a place. State Forests is committed to protecting and managing significant cultural heritage values on State forest in co-operation with the local community.

Aboriginal cultural places retain special values, which are being increasingly recognised in land management. These places may hold additional significance that is defined by the Aboriginal communities themselves.

State Forests is committed to growing our recognition, management and conservation of Aboriginal cultural heritage values in our forests. An officer is employed in our head office to develop and implement cultural heritage policy. Aboriginal cultural heritage officers are also employed regionally to assist in identification and protection of Aboriginal sites in the forests and to liaise with the local Aboriginal community.

Cultural heritage is managed in our forests by identifying and protecting specific sites from adverse disturbance, and in the case of Aboriginal sites as

advised by the local Aboriginal community. Cultural Heritage Guidelines for Eden and our north coast forests are now in place through State Forests' ESFM (Ecologically Sustainable Forest Management) Plans for native forests.

In addition, State Forests is implementing processes for the management of forests or parts of forests where local Aboriginal communities share responsibilities for cultural heritage management. As an example, in Eden, the Aboriginal community and State Forests jointly drafted a Memorandum of Understanding containing agreed arrangements for consultation to:

- Conserve Aboriginal culture, heritage and resources;
- Facilitate the achievement of Aboriginal cultural, social and economic aspirations;
- Protect Aboriginal cultural rights and intellectual property; and
- Manage State forests for the benefit of the people of NSW.

State Forests continues to monitor our performance against the same indicators as previous years. In future years it is planned to incorporate additional indicators relating to site management through staff training and the implementation of specific management plans.



Historical timber tramway on State forests used in the past for transport of logs.

Indicator 10. Protection of recorded places, artefacts, sites and other structures

Description

The number of cultural heritage sites identified and protected on State forests is monitored as a performance indicator of the extent to which State Forests incorporates considerations of cultural heritage values into landscape management.

Trends

Table 7 shows a steady increase in the identification and protection of Aboriginal sites within State forest. In the past year, 540 new sites were identified on State forest. Responsibility for the maintenance of a register of Aboriginal sites in NSW rests with the NPWS under the *National Parks and Wildlife Act 1974*. There has been a large overall increase of registered sites as a result of surveys undertaken for the Western Regional Assessment, particularly in the Pilliga and Goonoo State Forests.

Table 7. Number and type of heritage or cultural sites protected on State forest

| | 1997–1998 | | 1998–1999 | | 1999–2000 | | 2000–2001 | |
|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|
| | Total no. of sites ¹ | No. of sites found or registered by State Forests ² | Total no. of sites ¹ | No. of sites found or registered by State Forests ² | Total no. of sites ¹ | No. of sites found or registered by State Forests ² | Total no. of sites ¹ | No. of sites found or registered by State Forests ² |
| Aboriginal sites | | | | | | | | |
| Natural features | NA | 99 | 90 | 1 | 84 | 2 | 588 | 20 |
| Sites of historic importance | NA | 172 | 2 | 1 | 1 | 1 | 14 | 0 |
| Art and ceremonial sites | NA | 68 | 66 | 0 | 69 | 5 | 139 | 3 |
| Sites associated with tools, artefacts and hunting | NA | 968 | 808 | 155 | 693 | 84 | 2,008 | 393 |
| Sites associated with traditional Aboriginal life | NA | 614 | 1,022 | 17 | 1,340 | 27 | 1,654 | 55 |
| Not classified | NA | 25 | 0 | 0 | 26 | 0 | 113 | 69 |
| Total Aboriginal sites | NA | 1,946 | 1,988 | 174 | 2,213 | 119 | 4,516 | 540 |
| Non-Aboriginal sites | | | | | | | | |
| | | not assessed | 509 | not assessed | 509 | not assessed | 482 | not assessed |

1. Includes sites located on State forest during surveys undertaken by State Forests and other agencies or organisations.

2. Sites found by State Forests during the course of pre-harvest surveys.

Source: NPWS Aboriginal Site Register, Heritage Register and State Forests' Regional Records

Aboriginal Elders share vision and knowledge

Elders from nine Local Aboriginal Land Councils met with State Forests in the Watagan Mountains late in 2000 to discuss Aboriginal site management and joint education and training initiatives.

“The State forests in the Hunter Region contain a number of significant Aboriginal sites,” State Forests’ cultural heritage officer, Dawn Townsend, said. “Areas such as the Warre Warren Aboriginal Place in McPherson State Forest are recognised by Aboriginal people and archaeologists alike as having high scientific and cultural value.”

“We are looking to Aboriginal Elders for guidance and input into the development of heritage awareness programs. We want to ensure that programs are developed in a culturally sensitive manner, sharing knowledge, whilst protecting the sites,” Dawn said. “Currently, we are working with women Elders on the management of women’s sites and programs focusing on bush tucker and medicines.”

State Forests’ Hunter planning manager, Jim Simmons, said that community consultation is a key component of forest management. “The Ecologically Sustainable Forest Management Plan (ESFM) plan for the Hunter lists the implementation of cultural heritage guidelines, co-management of heritage-rich areas and access for Aboriginal groups, as priorities for State Forests,” Jim said. “Our meeting with the Elders is part of the process of putting these priorities into practice,” he said.



State Forests’ staff play the didgeridoo during a meeting with Aboriginal Elders in the Watagan Mountains.

An aerial photograph of a vast, dense forest, likely a tropical rainforest, viewed from a high angle. The canopy is thick and textured, with many small gaps and variations in color. The entire image is overlaid with a warm, orange-toned filter, giving it a monochromatic appearance. The text is positioned in the lower-left quadrant of the image.

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.

State Forests of NSW Environmental Policy

State Forests of NSW recognises that planted and native forests represent a wide range of values and uses to the people of New South Wales. It is a goal of State Forests to conserve and protect forest values ranging from biodiversity and forest productivity to the ability of forests to act as carbon sinks and for the many recreational and cultural values they provide.

This environmental policy statement reflects international, national, and State commitments, policies and programs to ensure that State Forests operates its business and manages forests in a way that is environmentally sensitive, socially beneficial and economically viable.

State Forests is committed to ensuring ecologically sustainable forest management (ESFM) in NSW by:

- managing forests to maintain and enhance the full suite of forest values for the benefit of current and future generations;
- working to ensure that our management is complementary to forest management on other tenures; and by
- working with others to ensure the development and operation of a sustainable forest industry.

To implement ESFM the organisation is committed to:

- measuring and publicly reporting corporate performance concerning the:
 - conservation of biodiversity;
 - protection of soil and water quality;
 - protection of cultural heritage; and
 - provision of social and economic benefits
- developing, implementing and continuously improving its Environmental Management Systems for both planted and native forests to achieve improvements in its environmental performance.
- meeting or exceeding regulatory requirements and government policy.
- implementing the outcomes of the NSW Forest Agreements by working with other land managers and stakeholders.
- being open and transparent to the community in undertaking its operations.
- adapting forest management practices and systems in the light of auditing, monitoring and research information, changing expectations, regulatory requirements, and government policy;
- implementing world's best practice in forest management by State Forests' staff and contractors, including the provision of training, professional development, and accreditation processes.
- adequately resourcing the organisation to achieve ESFM.
- developing and implementing efficient energy use and waste management measures in all its activities.

State Forests will be actively seeking global business opportunities relating to environmental services and environmental enhancement.

Bob Smith
CEO State Forests

4/3/2001

“It’s a time when we can reflect on how our ecosystems can be rejuvenated by good management and community involvement.”

David Leslie, Ecologist, Riverina Region

Spotted Gum forest with Burrawang understorey, South Coast.

Biological diversity, or biodiversity, is the variety of all forms of life – the different plants, animals, micro-organisms, the genes they contain, and the ecosystems and ecological processes of which they form a part. Biodiversity is measured in terms of variations at genetic, species, and ecosystem levels. Biodiversity is important because it plays a critical role in meeting human needs directly while maintaining the ecological processes upon which survival depends.

It is well recognised that maintaining natural levels of biodiversity is essential for ecologically sustainable forest management. The forests of New South Wales contain considerable biodiversity, in a variety of forest ecosystems, which respond in various ways to different management practices.

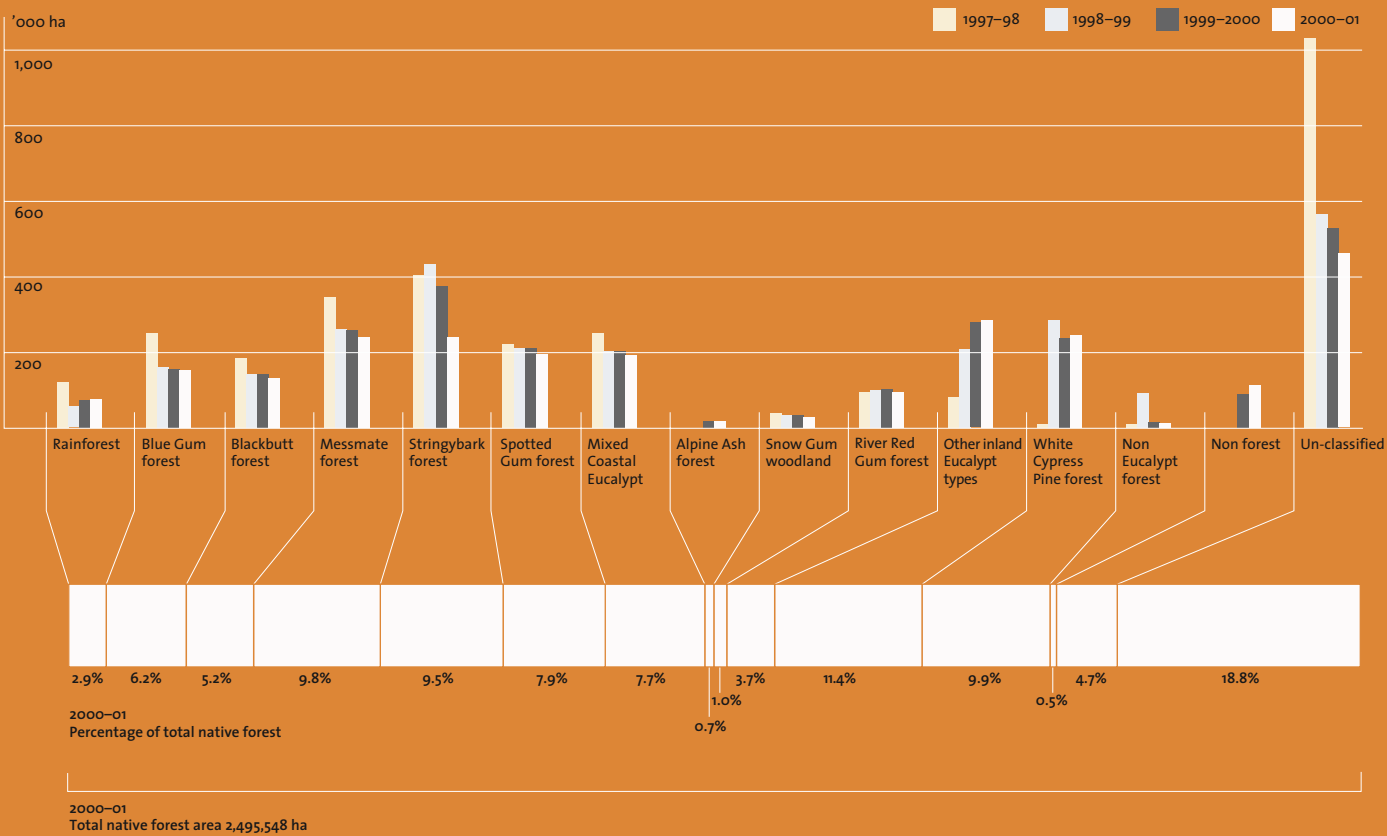
State Forests is committed to the management and conservation of the biodiversity of the forests we manage. This commitment involves:

- Maintaining the extent and range of forest types, their distribution and abundance.
- Maintaining a range of all forest structural classes across the landscape including the protection of high conservation value old growth forests, rainforest and unique ecosystems.
- Maintaining the diversity of flora and fauna in forests, with particular attention to threatened species and their habitats.
- Undertaking relevant management practices based on scientific understanding of ecological characteristics of forest types.

State Forests also recognises the values held by plantations for environmental and social benefits. Through increased tree cover and the protection or enhancement of riparian corridors and retained native vegetation, biodiversity is promoted.

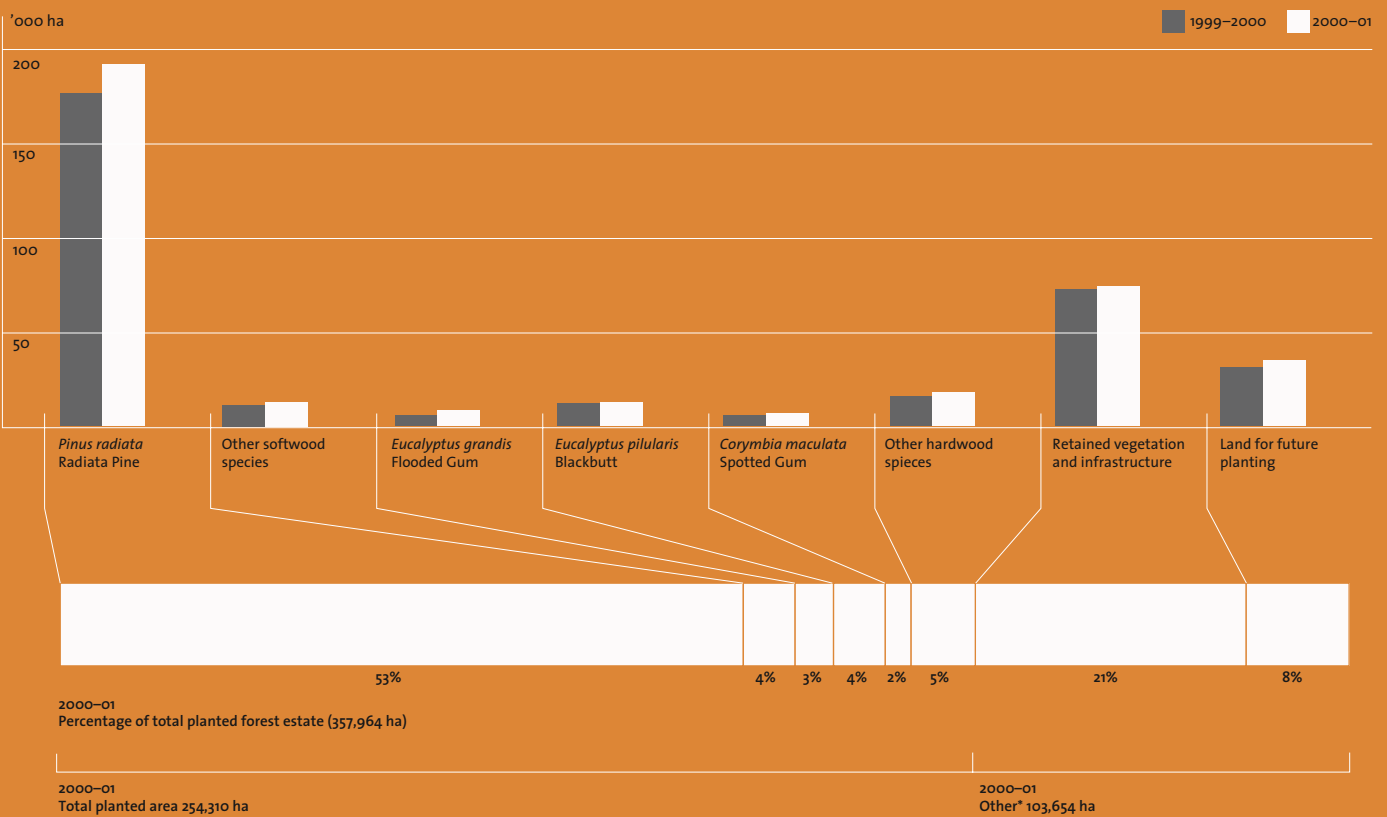
Recognition of these multiple environmental values provided by forests is essential for their long-term sustainable management.

Figure 3. Area and percentage of native forest in broad forest groups*



* Classification into broad forest groups utilises forest types and leagues identified in State Forests Research Note 17.

Figure 4. Area and percentage of planted forest by species



*Other includes environmental exclusions, utilities and the available land bank.

Indicator 11. Extent of forest type

Native forest

Description

The native forest estate managed by State Forests is comprised of a wide range of forest ecosystem types. Within the native forest estate more than 200 forest ecosystem types are recognised, each containing a unique combination of flora, fauna and other characteristics. Tracking changes in the area of these forests helps us make decisions about resource utilisation, silviculture, conservation and other issues relating to forest management. The majority of hardwood products are harvested from native forests.

Trends

The area of native forest managed as State forest has steadily declined over the past four years as a result of the RFA process (Figure 3). The last financial year saw a reduction from around 2,713,000 hectares to 2,495,500 hectares, primarily as a result of the Southern RFA process through which approximately 215,000 hectares of native forest was transferred from State forest to national park or other tenure. In the coastal areas, this area consisted mainly of Stringybark, Spotted Gum, Blackbutt and other coastal forest types, while in the tablelands region large areas of Alpine Ash and Snow Gum woodland have become national park.



State Forests' hardwood plantation estate is expanding to develop new business opportunities.

Planted forest

Description

The plantation estate managed by State Forests includes a range of native hardwood (*Eucalyptus* and *Corymbia* spp), native softwood (*Araucaria* spp) and exotic softwood (primarily *Pinus* spp) species. The area and percentage of plantation managed by State Forests is an indicator of our commitment to expand the area of plantations to meet both domestic and international opportunities in wood supply as well as in energy, carbon sequestration and third party investment.

Trends

The planted forest estate has continued to increase to around 358,000 hectares, with a total planted area of 254,310 hectares. Figure 4 demonstrates the area and percentage of plantation in different species.

Indicator 12. Extent of native forest structure

Description

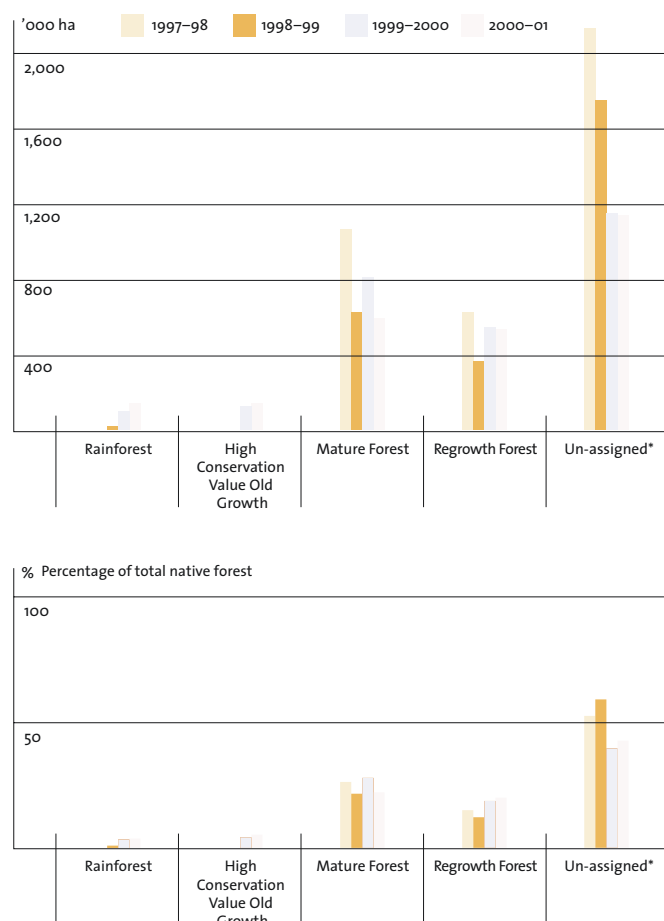
Forest structure refers to the mix of tree species and tree age, which reflect the natural environment and management history of the forest. For comparative analysis and management purposes, four types of forest structure class are referred to: Regrowth Forest, Mature Forest, High Conservation Value Old Growth and Rainforest. Progressively through these categories the proportion of older trees increases. Areas identified as High Conservation Old Growth Forest are unavailable for harvesting because the ecological values of these stands, for fauna habitat, has been made paramount. State Forests aims to maintain a balanced range of forest structures in all forest types, across the landscape.

Trends

With the completion of the Southern RFA and expansion of the Forest Management Zoning System to the South Coast and Riverina Regions, the percentage of the native forest estate that is classed as High Conservation Value Old Growth and Rainforest, and is managed accordingly, has increased slightly. Of the High Conservation Value Old Growth that occurs on State forest 92.5% is managed within informal reserves, the remaining 7.5% is protected through management prescriptions and is not harvested. Similarly 82.6% of the rainforest found on State forest is reserved and the additional 17.4% is protected through management prescriptions and is not harvested.

The class of forest that shows change is that proportion of the estate that is classified as Mature Forest. This forest structure class comprises the majority of the harvestable portion of the native forest estate and is therefore mostly likely to show variation from year to year. However the decrease in percent of Mature Forest in State Forests' native forest estate over the last financial year is due to the transfer of large tracts of Mature Stringybark, Messmate and Spotted Gum from State forest to national park (see Figure 5).

Figure 5. Area and percentage of native forest in forest structure classes



* Un-assigned forest are areas of forest that have not been subject to assessments for structure class of for which classification of this type is not appropriate (eg Cypress forest).

Indicator 13. Record of surveyed species

Description

Threatened species, which are those forest dwelling species identified under the NSW *Threatened Species Conservation Act 1995*, are used as an indicator of any adverse impacts of State Forests' activities on fauna, due to their low population size or limited geographic range. The effectiveness of survey techniques indicates changes in the abundance of these species and helps determine the success of protective measures employed during harvesting.

This year a suite of species have been selected, some of which are of interest to community groups. Appendix 6 provides a full list of sightings and recordings of targeted species of fauna for the past four years.

Trends

The number of sightings of threatened species (Figure 6) is directly dependent on the occurrence of surveys for areas of forest scheduled for harvesting, which contain different forest types and therefore different species and habitat. Likewise the number of sightings determines the area of forest to be available for harvesting. Following the sighting of particular species during pre-harvest surveys, areas of habitat are reserved or protected from the area planned for harvesting. These areas are prescribed under the Threatened Species Licence conditions for each region. For example, following sightings of Yellow-bellied Glider (*Petaurus australis*) within a compartment, a 50 metre radius exclusion zone must be placed around each den and all sap feed trees must be retained during harvesting. It should be noted that different prescriptions apply to each of the species listed under the Threatened Species Conservation Licence for each Forest Agreement region. During the year, 2,490 threatened species were located.

Seasonality of surveys and climatic change also affect the species sighted. While annual variation is acceptable, any significant decline in numbers over time could act as an early warning and require more thorough investigation.

In terms of survey effort, State Forests expended over \$1.6 million undertaking pre-harvest surveys in native forest (refer Table 13).

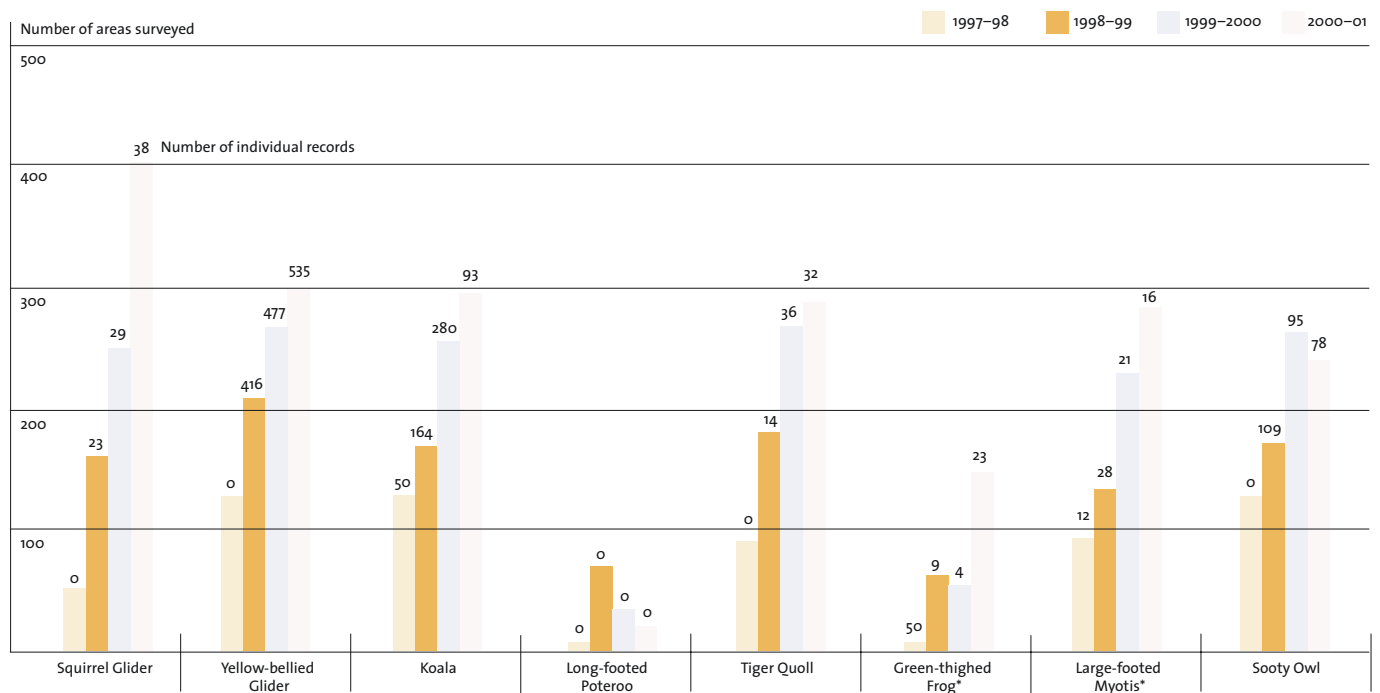
Why do State Forests survey fauna?

During the planning phase of timber harvesting a team of ecologists employed by State Forests undertakes extensive surveys to locate and protect rare and endangered species. The species found are subject to special protective measures, which are negotiated and agreed between State Forests and NPWS. These measures enable a consistent and uniform approach to be taken in meeting obligations under the *Threatened Species Conservation Act 1995*, *National Parks and Wildlife Act 1974*, *Environmental Planning and Assessment Act 1979*, and *Forestry and National Parks Estate Act 1999*.



The percentage of Greater Glider habitat on State forest in RFA Regions has remained stable over the past two years.

Figure 6. Change in sightings and recordings of surveyed animals in native forests



* see story page 33 for more information

Indicator 14. Habitat level of representative species

Description

An objective of our forest management is to preserve habitat critical for the survival of native species in our forests, particularly for threatened species. To determine our performance in this area, the area of habitat for three species of arboreal mammal is measured: *Phascolarctos cinereus* (Koala), *Petauroides volans* (Greater Glider) and *Petaurus norfolcensis* (Squirrel Glider). These species were selected because of their dependence on a mature or over-mature forest structure and therefore possibly susceptibility to change as a result of forest management practices.

Trends

Figure 7 presents the area of available habitat in State Forests' RFA native forests (ie Eden, Upper North East, Lower North East and Southern) for representative species for the last two reporting periods. The data for the previous two reporting periods (ie 1997/98 and 1998/99) has not been included as that data did not only relate to RFA areas and a comparison with those years would therefore be meaningless. The data in Figure 7 is based on forest typing and forest structure information that has been finalised with the completion of regional assessments.

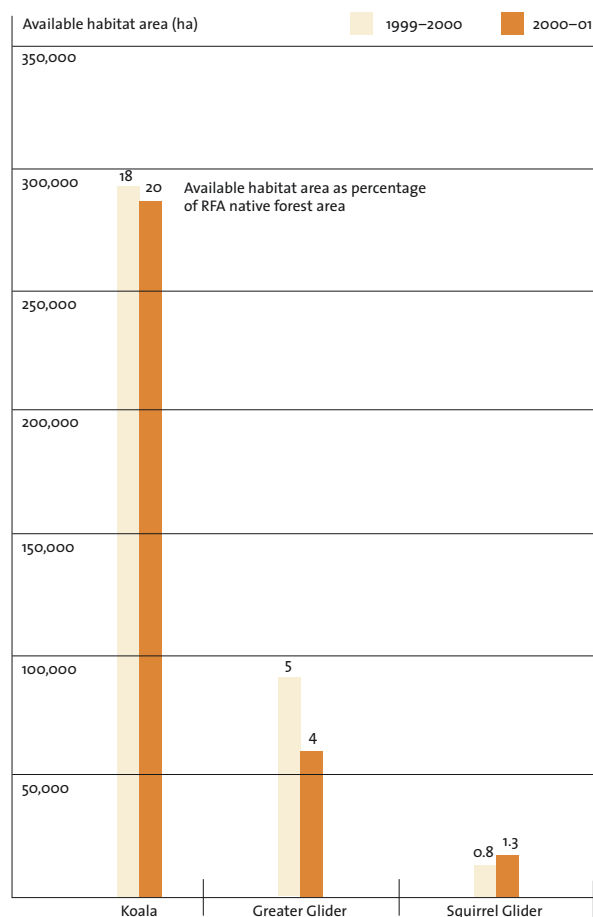
Protection and enhancement of critical fauna habitat requires management for a range of forest types and structure classes across the native forest estate. To protect critical habitat we must ensure that the full range of forest types and structure classes are retained, in proportion to the total estate area. In the past four years the size of the native forest estate managed by State Forests has reduced significantly with the transfer of forests to NPWS.

In the past year the area of Greater Glider habitat managed by State Forests decreased. This was as a result of the transfer of over 23,000 hectares of Greater Glider habitat, in tableland and escarpment forests that were part of the Southern RFA, to NPWS management. A minor reduction in the size of the estate (almost 6,000 hectares) in the Lower North East RFA region also contributed to this decline. However, the percentage of Greater Glider habitat on State forests, relative to the area managed, remained stable.

The outcome of the Southern RFA did not greatly effect the area of the forest estate suitable for Koala or Squirrel Glider habitat because the coastal forests of the Southern RFA region area are not critical habitat for these species. The slight changes in the available habitat area for these species can generally be attributed to modelling as a result of better forest type and structure information. The percentage of these species habitat on State forests relative to the area managed slightly increased.

Overall, the area of available habitat as a percent of the total State Forest RFA native forest area has remained stable relatively over the last two years. It is expected that the area of habitat available will continue to fluctuate slightly each year, but appropriate management practices under Threatened Species Licences seek to prevent any major decline and significant changes are not expected to become apparent over a longer time period.

Figure 7. Available habitat in State Forests' RFA native forests for representative species



Monitoring fauna on State forest

Following the completion of timber harvesting operations, forest areas slowly regenerate, during which time they provide habitat, sometimes preferential, for a wide range of species.

Monitoring is a method for tracking changes in populations of species over time. Long-term monitoring not only provides a good means of documenting changes in abundance over time, it also documents changes in relation to particular management treatments. This information provides feedback to management to allow the refinement of procedures and operations. Such a process is known as adaptive management.

The impact of timber harvesting on fauna has been identified as a major concern of community and scientific groups. Codes of practice, regulations and policies have been developed to minimise this impact. In order to monitor the effectiveness of protective measures and to guide management, State Forests has been undertaking targeted research in a number of areas and with respect to a range of species.

Last year, a report was prepared on a population of Large-footed Myotis or fishing bats (*Myotis macropus*) in Kerewong State Forest. This year a progress report is provided on this species, following logging of part of their habitat in 1999. Information is also included about a number of other 'representative' species, including frogs and forest dwelling birds. Other fauna and forest sites being tracked over time will be reported on in coming years.

Bats are small, nocturnal insect consumers that are an important part of the forest ecosystem, so it is important that their numbers are tracked over time. Bat populations feed throughout the forest landscape, but during the day some species concentrate at one or a few locations. For the purposes of monitoring, this provides enormous advantages over species that are naturally dispersed (eg. birds).

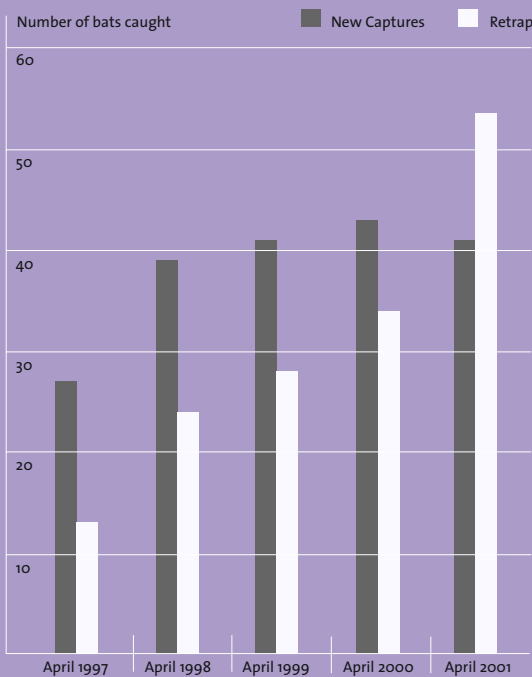
The threatened, Large-footed Myotis fishes for aquatic prey on the surface of still water. These bats are known as fishing bats because they forage over streams and sometimes catch small fish. State Forests undertakes pre-logging surveys for this bat and, if recorded, special protective measures are put in place, such as increasing the width of buffers on streams.

The discovery of a roost of this species in Kerewong State Forest in 1996 provided the opportunity to annually census the number of bats using the roost. Each autumn, the bats are banded using bands from the Australian Bird and Bat Banding Scheme. The number of individual bats caught annually between 1997 and 2001 varied between 40 and 94, with an increase in population size being evident over time (Figure 8). No decline in numbers is evident following a logging operation that took place upstream of the bat's roost in 1999. This information helps staff monitor the impact of timber harvesting on species and to guide decisions about whether the measures taken to protect threatened species are working. Reasons for the population increase are currently being investigated.



Fishing bat

Figure 8. *Myotis* bats caught in April, annually between 1997 and 2001



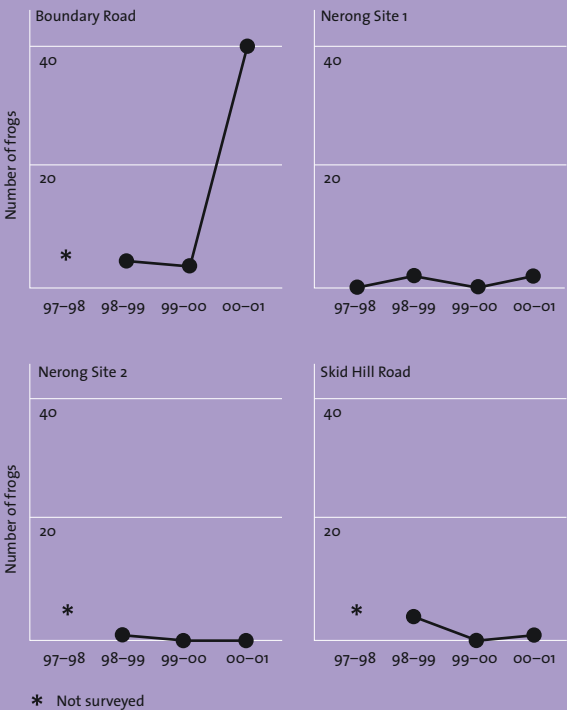
Frogs are small to medium-sized, nocturnal insect consumers that are also an important part of the forest ecosystem. Frogs are most easily identified when they congregate around a breeding site during the breeding season. As with bats, this concentration of individuals offers great advantages in monitoring programs. Monitoring frog populations has become of considerable interest in recent years due to noted worldwide declines, often in apparently pristine areas.

The threatened Green-thighed Frog (*Litoria brevipalmata*) is a frog that usually breeds in temporary pools located in or near wet sclerophyll forest, swamp forest and rainforest. A concentration of populations was discovered in the Bulahdelah area in the mid-1990s during surveys performed for the RTA. Four populations have been monitored yearly since 1997–98. This has involved listening and looking for calling males at each site whenever heavy rains have fallen between September and April. The number of calling males located annually between the 1997–98 and 2000–01 seasons has varied for the three main sites and in different ways (1 up, 1 down, 1 the same – Figure 9). None of these sites were disturbed in any noticeable way and the variations in numbers appears to be related to the varying patterns in rainfall (they only breed after heavy rains fill their breeding sites – such rains did not occur in 1997/98).

Birds are a highly visible and important component of biodiversity. More than 200 species occur in NSW State forests. Birds occur in all localities and utilise all parts of the forest from the canopy to the ground. They perform a wide range of essential ecosystem processes such as pollination, seed dispersal and population regulation for many other taxa. The great diversity of bird species, their habitats and life history strategies results in a wide range of possible responses to disturbances, including logging. It is important for forest managers to know the consequences of their actions, in particular to identify and monitor species that are affected adversely by forest management practices.

Compartment 206 near Eden was the first area to be logged in the south-east forests according to the small (~15 hectares) alternate-coupe logging system. However, at the time this compartment was logged in 1976, the modern practice of retaining old trees for wildlife habitat or as a seed source for eucalypt regeneration was not developed. Similarly, there was no implementation of the modern requirement of retaining un-logged forest in filter strips along all minor drainage lines and creeks. Thus, this study area represents an “extreme-case” scenario about the effects of logging on birds. Management procedures evolve continually and usually more rapidly than the time needed to gather results from long-term research, but it is useful to take stock of the longer term consequences of management actions

Figure 9. Maximum numbers of Green-thighed Frogs recorded on a single night at breeding sites in Nerong State Forest



Standardised counts of bird populations using the same methods in adjacent logged and unlogged coupes in Compartment 206 have been made since 1976. Data for eight bird species are presented in Figure 10 to illustrate the range of responses to intensive logging. Here, comparisons are limited to the three years (1980, 1989 and 1998) when identical sampling effort was employed (i.e. seven unlogged coupes and seven logged coupes).

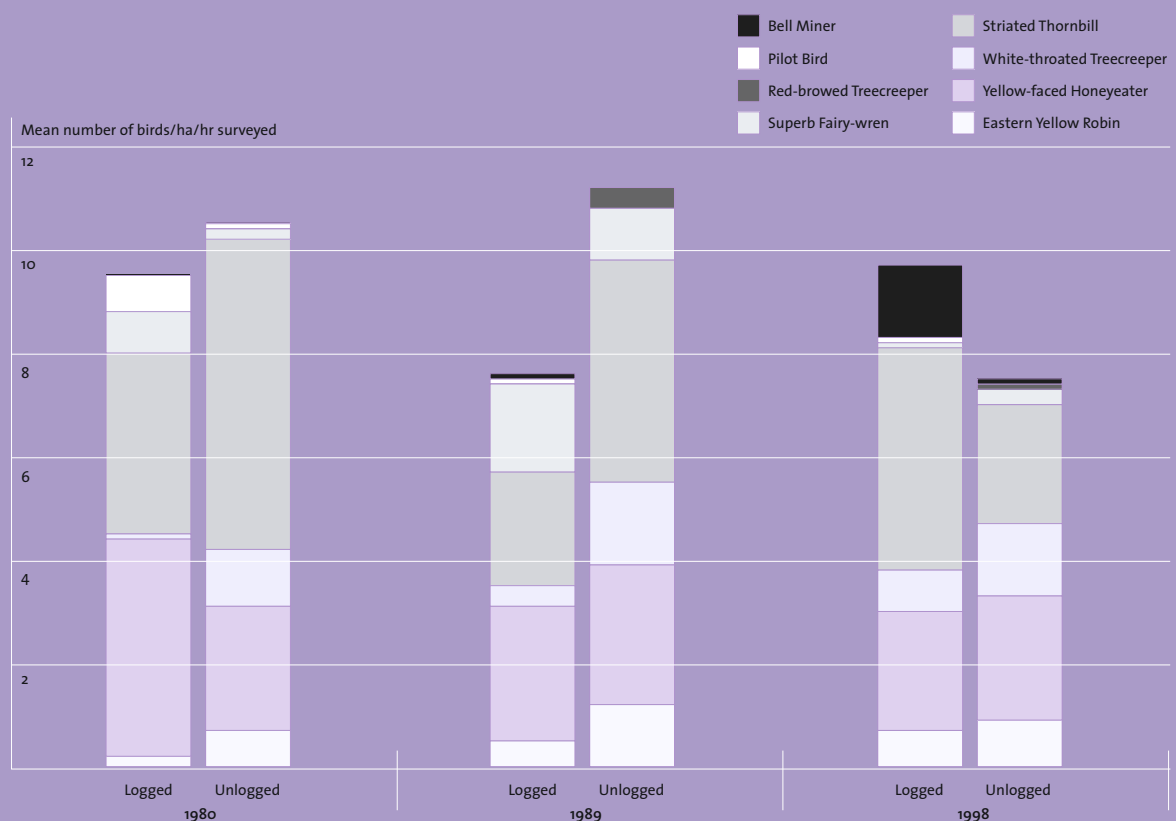
Most bird species that forage among canopy foliage, in the air, among the understorey and on the ground had recovered by 1998, 22 years after logging. The Superb Fairy Wren, Pilot Bird and Yellow-faced Honeyeater are examples of species which showed a marked positive response shortly after logging, which then equalised and eventually declined on both logged and unlogged coupes. The Eastern Yellow Robin and the Striated Thornbill are examples of species that displayed a marked negative response to logging initially, but then recovered. However, some hollow-nesting birds (e.g. treecreepers, cockatoos) have still not fully recovered by 22 years after logging. The supply of nest sites for these species is expected to remain low for many years on this study area and reinforces the need for the current principle of retaining habitat trees in logging areas. The White-throated Treecreeper is gradually recovering and now forages extensively among the older-aged regrowth

stems that are adjacent to the unlogged coupes. However, the Red-browed Treecreeper did not re-appear in the study area until 1989 (13 years after logging), and this species still has not been recorded on the logged coupes. In contrast, the Bell Miner, a honeyeater often associated with disturbed forest and implicated in eucalypt canopy dieback, had established colonies on some logged coupes 22 years after intensive logging.

Future monitoring programs

Plans are underway to develop systems for regular monitoring of selected key species throughout a range of forests in each region. These monitoring systems should ideally include all public land tenures, and both logged and unlogged forest. Species will be targeted for monitoring on the basis of their sensitivity to disturbance, their representation of different trophic groups, and their special appeal to humans. Methods for accurately sampling these species are currently under investigation. Implementation of comprehensive regional monitoring programs will provide feedback about the effects of management policies and procedures, and will provide more accurate information for environmental reporting.

Figure 10. Comparative abundance for selected bird species on adjacent logged and unlogged coupes near Eden



“Not only do hazard reduction burns protect life and property from wildfire over the hotter months, they assist in the protection of State forests’ valuable resources, including ecological and timber resources”

Andrew Yates, Operations Forester, Hunter Region

State Forests undertakes planned hazard reduction burning in consultation with regional Bushfire Management Committees.

A healthy and vital forest promotes biodiversity and productivity and also provides a greater range of possible community uses, products and benefits. Controlling populations and effects of introduced predators, feral animals and weeds, conserving site fertility, controlling insect and fungal pests and managing the effect of wildfire are critical components of our forest management practices.

Biodiversity conservation as well as social and economic development relies on maintaining healthy ecosystems. State Forests has implemented ESFM plans in Upper North East, Lower North East and Eden Forest Agreement Regions that address fire management, insect and disease management, forest regeneration, feral and introduced predator control, weeds management and forest research and development.

Our forest management includes a significant effort to protect the health of our forests. For example:

- All State Forest Regions actively undertake programs to control weeds, introduced predators, feral animals and pests on the forest estate (indicator 15).
- Our Forest Health Unit monitors planted forests for disease, insect attack and nutrient deficiency (indicator 16).
- Co-operative bushfire risk and bushfire suppression management plans in conjunction with local communities and agencies have been developed, and hazard reduction and fire suppression programs implemented to protect our forest from the effects of severe wildfire (indicator 17).
- Techniques to detect and accurately measure the extent of disease using remote sensing such as multi-spectral imagery are being developed and we hope to report on this in the future.

For further information about forest health, readers should refer to State Forests’ Research and Development Division Annual Report.

Indicator 15. Expenditure on introduced predators, feral animal and weed control

Description

Tracking expenditure on programs to control feral animals (see story page 40), weeds and introduced predators provides one simple indicator of the effort made to maintain the health and vitality of forest ecosystems. This indicator is used as a surrogate in the absence of data about numbers and extent of agents, particularly for feral animals and introduced predators in forest ecosystems. In future, information about the extent of agents affecting forest health and the effectiveness of the control effort will be provided.

Trends

Table 8 presents expenditure on the control of introduced predators, feral animals and weeds. Expenditure in 2000/2001 reporting period was greater than in the previous year. Activities to control the presence of blackberry, pigs, foxes and wild dogs were undertaken at significant cost during the year. Expenditure on rabbit control has continued to decline as their numbers have decreased and their impact on forests has reduced.

Table 8. Expenditure on introduced predator, feral animal and weed control

| Year | Weeds | Introduced predators and feral animals | Total |
|-----------|-------------|--|-------------|
| 1997–98 | \$1,325,000 | \$328,000 | \$1,653,000 |
| 1998–99 | \$630,000 | \$409,000 | \$1,039,000 |
| 1999–2000 | \$552,000 | \$369,000 | \$921,000 |
| 2000–01 | \$562,608 | \$466,127 | \$1,028,735 |



Herbivorous (leaf eating) Christmas beetles continue to be a major agent impacting on hardwood plantations.

Indicator 16. Percent of planted forest affected by agents that may change ecosystem health and vitality

Description

In order to measure health and vitality in planted forest, State Forests annually collects data on the occurrence of the main threatening biological agents and critical nutrient deficiencies. Data collection is undertaken by State Forests' Forest Research and Development Division, as part of our plantation establishment program.

Trends

Table 9 presents the percentage of newly planted hardwood forest affected by selected agents that are severe enough to potentially cause a deleterious affect on plantation health and vitality.

Insects, including herbivorous and sap-sucking insects, continue to remain the major agents impacting hardwood plantations. Insects particularly impacting this year were the sap-sucking psyllids, the herbivorous Christmas beetles, chrysomelid leaf beetles and sawfly larvae and stem borers. There was only minor damage from soil pathogens this year. As expected for endemic species, the percentage of trees suffering insect and fungal (eg soil pathogens) attack



Weed control in newly established plantations.

Table 9. Percentage of new hardwood plantation* that may be adversely affected by selected agents

| Agent | 1998–99 | 1999–2000 | 2000–01 |
|-------------------------------------|---------|-----------|---------|
| Herbivorous and sap-sucking insects | 23.8% | 25.8% | 2.8% |
| Stem borers (insects) | 7.5% | 0.5% | 0.3% |
| Soil pathogens (fungi) | 1.0% | 0.0% | 0.0% |
| Unaffected | 67.8% | 73.7% | 96.9% |

* Planted hardwood forest post 1994 based on 20,000 ha planted area (majority of the area surveyed)

Table 10. Percentage of net softwood plantation* that may be adversely affected by selected agents

| | 1998–99 | 1999–2000 | 2000–01 |
|------------------------------------|---------|-----------|---------|
| <i>Dothistroma</i> (needle blight) | 1% | 2.3% | 2% |
| <i>Sphaeropsis</i> (fungus) | 3% | 0.1% | 0.5% |
| Boron deficiency | 4% | 3.8% | 0.5% |
| <i>Sirex</i> (insect) | 0% | 0.0% | 0.02% |
| Possum damage | 0% | 0.2% | 0.23% |

* Based on 200,000 hectares planted area (entire area surveyed)

Note: Although phosphorus deficiency has been previously reported it is not reported this year as it is no longer considered a forest health issue.

is high. However, the attributes of the selected native trees means that insect and fungal attack is usually not severe enough to kill trees but does reduce the optimal growth rate.

The decline in herbivorous and sap sucking insect damage this year is due to a change in the definition of 'significance'. Previously all damage was included, now only moderate to extreme damage (>25% severity) is reported.

Potential insect and fungal damage is countered by selecting species that are appropriate for each individual site and by promoting strong root establishment and early growth of the seedlings. Research is also continuing on treatment of these agents and genetic selection to improve tree health and vigour.

Table 10 shows the percentage of planted softwood forest affected by selected agents that are severe enough to potentially cause a deleterious affect on plantation health and vitality.

Some agents cause damage across continuous areas, such as *Dothistroma* needle blight. Other agents cause more sporadic damage in plantations, such that between, for example, 1% and 50% of trees are affected (eg *Sirex* wood wasp, *Sphaeropsis* fungus, possum damage). The main agent damaging softwood plantations this year was *Sphaeropsis*, which was induced by drought stress. *Dothistroma* needle blight was high in several areas (including the northern tablelands). The decline in areas affected by boron deficiency relates to the fact that State Forests conducted remedial fertilisation in affected stands.

Indicator 17. Fire fighting and prevention

Description

Wildfire can be both beneficial and detrimental to forest ecosystems. Eucalypt forest types are dependent upon fire for regeneration and renewal while other forest types are threatened by severe or frequent fire events. Recording and monitoring the extent of wildfire each year helps track both the benefits and effects on forest ecosystems.

The objective of fire fighting and fire prevention is to safeguard the community's property and lives and State Forests' commercial and environmental assets.

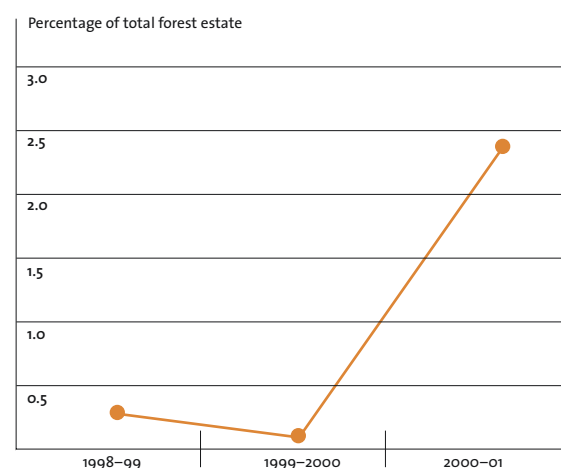
Trends

Figure 11 indicates that the 2000–01 season was an above average year for wildfire, predominantly in the northern part of NSW. Climatic events in this region contributed a high incidence of generally low intensity wildfire resulting in a large number of fires covering more than 55,000 hectares of native forest. Of these only 8% were classed as severe, resulting in greater than 70% crown scorch.

In fighting these fires State Forests spent over \$3.2 million and invested a further \$5 million in the prevention of wildfire in the future and the health of forests through fire management. This is the first year that expenditure on fire fighting and fire prevention has been reported so no trends are yet identifiable.



Figure 11. Percentage of forest burnt by wildfire



The objective of fire fighting and fire prevention is to safeguard the community's property and lives and State Forests' commercial and environmental assets.

On the hunt for feral dogs

Wild dogs are taking a high toll on south eastern NSW but the feral animal control officers are fighting back. In response to a build up in wild dog numbers and subsequent increase in stock and native animal losses, State Forests' feral animal control officer, Reg Tetley, has been put on full-time dog control. Reg, 56, has been trapping feral animals in the Monaro Region for most of his life and said this year wild dog attacks have increased dramatically.

Dog numbers are up because the serious drought in the Monaro has weakened both stock and native animals. This has provided a rich food source for wild dogs and more pups are surviving. "Normally about 50 per cent of pups die, but now 100 per cent are surviving," Reg said.



Another theory is that dog hunter (also known as 'dogger') numbers are down. Years ago there was a bounty on dog scalps and this encouraged the hunting of wild dogs, but this has lapsed.

State Forests along with the Department of Natural Resources and Environment in Victoria, NPWS and the Rural Lands Protection Board, meet annually to implement a wild dog and fox eradication program for the Monaro Region.

In response to the growing problem State Forests nearly doubled its program in 2000, with Reg starting trapping in January instead of August.

Landholders bordering State Forests help by contacting Reg to say they have sighted a wild dog.

"It's not a job for everyone. You see some grizzly sights. It's solitary and very specialised because the wild dog is so shy – you have to outwit him. You have to be very persistent and use all the tricks of the trade. I use a number of decoys to attract dogs. Old time doggers have passed these onto me. Each dogger has his favourites. Some doggers hang dead dogs in the trees, but I don't do that. Sometimes the scent of tuna oil attracts them to the mound," Reg said.

"Wild dogs are a fact of life on the Monaro, you've got to learn to control them, otherwise they'll definitely take over. "It takes an old dog to catch a dog," said Reg with a smile.

*Fox prints in the sand
near a baited mound.*

Forest Value 6. Soil and Water Quality

"There is such a diversity of fauna living in those tiny creeks and sometimes simply counting them takes a lot of time."

PhD student Jan Miller, supervised by Dr Wayne Erskine,
Senior Soils Specialist, Head Office

State Forests has in place an ongoing water quality monitoring program.

Forests play an essential role in the protection and maintenance of soil and water resources. Conservation of soil and water contributes to the catchment, health and biodiversity values of the landscape.

Conservation and maintenance of soil and water resources are fundamental aims of the management of State forests. The mechanisms for achieving this are incorporated into our Codes of Practice.

Through our Codes of Practice State Forests is committed to using world's best practice to ensure that soil and water quality are not adversely impacted by our operations. Our forest management also aims to maintain the capacity of our soils to support the natural forest ecosystem processes.

The practices that State Forests uses are documented in our Forest Practices Code for field operations, which specifies amongst other things, the operational standards required to deliver clean water and meet current regulatory requirements.

Effective implementation of soil and water protection is further assisted through the regulatory conditions prescribed in Environment Protection Licences, issued by the Environment Protection Authority (EPA). The

EPA monitors the implementation of Licence conditions. State Forests is also undertaking a program of water quality monitoring, part of which is prescribed in the licences issued for harvesting.

Beyond our regulatory requirements, State Forests is playing a key role in the delivery of the NSW Government's Salinity Strategy, including a project in the Liverpool Plains Region to determine the viability of large scale tree planting to manage salinity. More information on State Forests' involvement with the salinity initiative is provided in our annual report.

Two indicators are used to monitor our impact on soil and water, which articulate the level of harvesting and protective measures applied in State forest.

Table 11. Area and percentage of forest harvested

| Land category | Percentage of forest harvested | | | | Area of forest harvested (ha) |
|-------------------------|--------------------------------|---------|---------|---------|-------------------------------|
| | 1997–98 | 1998–99 | 1999–00 | 2000–01 | 2000–01 |
| Native forest | not previously reported | | 2.1% | 2.6% | 64,166 |
| Planted softwood forest | not previously reported | | 4.6% | 5.4% | 16,538 |
| Planted hardwood forest | not previously reported | | 4.6% | 4.1% | 2,005 |
| Total estate | 2.1% | 2.4% | 2.4% | 2.9% | 82,709 |

Indicator 18. Soil erosion assessment – area and percentage of forest harvested

Description

Prior to the establishment of any roads required for timber harvesting a soil survey is undertaken by an accredited officer. Consequently the area of harvesting can be used as a measure of the land systematically assessed for soil erosion hazard and for which water pollution measures are put in place.

Trends

Table 11 shows that 2.9% of the total forest estate was harvested in 2000–2001, and therefore assessed for soil erosion hazard. This is an increase of 0.5% from the previous year.

In assessing the soil and erosion hazard of these operations, State Forests undertook a total of 326 surveys over an area of 82,709 hectares. The decline in non-compliance incidents related to soil and water quality over the last year (see Appendix 7) suggests that State Forests is continuously improving this component of its environmental management.

Indicator 19. Area and percentage of forest managed primarily for catchment protection

Description

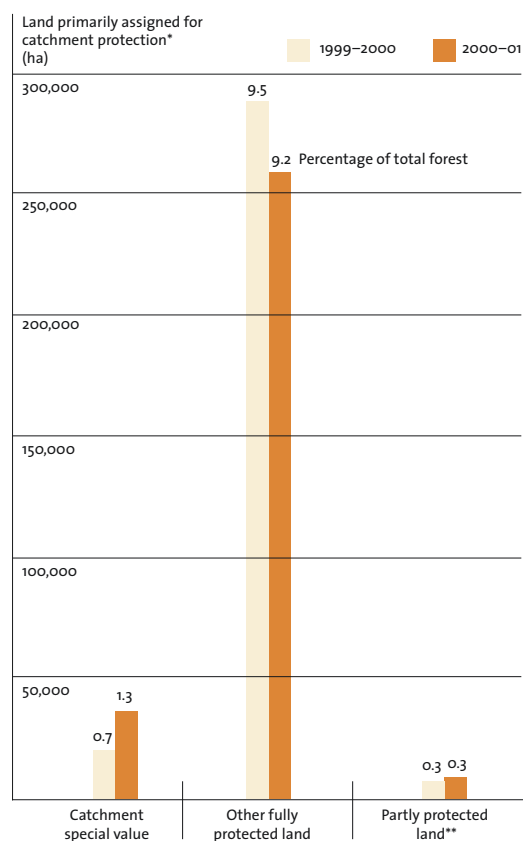
The entire State Forests' estate is managed for catchment protection. However this indicator reports on the area of land that is zoned 'catchment' as the first special value in our Forest Management Zoning system ie has a special emphasis for catchment protection. It also includes the current estimate of the extent of stream-side reserves and extreme soil erosion hazard land that is protected within the 'general management' native forest area and the current estimate of the extent of filter strips in planted forest.

The indicator does not include land that has been primarily zoned for other ecological purposes, but for which catchment protection is also an important objective. Consequently, Informal Reserves that are managed primarily for flora or fauna are not included in this indicator.

Trends

In 2000–01, 308,143 hectares representing 10.8% of the total forest estate was managed for special emphasis catchment protection. While the number of hectares managed for this value have decreased with overall reductions in the estate area (see Indicator 11), State Forests has increased the proportion of the estate set aside for protecting water catchments.

Figure 12. Area and percentage of forest managed primarily for catchment protection



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

** Includes filter strips protected in areas where modified harvesting is permitted.

“Compliance monitoring and auditing of State Forests’ operations is important because it flags exposures which could lead to environmental harm. It is also a good means of demonstrating due diligence and conformance with legislative requirements”

Tony Yates, Principal Operations Auditor, Head Office

Softwood plantation, Mebbin State Forest, Casino.

All harvesting operations conducted by State Forests are carried out within the framework of a regulatory regime. In the native forests of eastern NSW the regulatory regime is explicitly documented in legislation. Elsewhere, State Forests is subject to the regulatory requirements applicable to any other person or organisation in NSW, conducting activities that produce a similar level of impact.

Explanation of legislation and licences

Following the completion of three Forest Agreements in New South Wales, a large proportion of forests managed by State Forests are now regulated under Integrated Forestry Operations Approvals (IFOAs). These approvals reflect the policy of the Government of NSW to develop an ecologically sustainable, value added and secure native forest timber industry, and establish clear, consistent and strong environmental regulation of forestry operations.

IFOAs are issued and administered by the Department of Urban and Affairs and Planning and are granted under Part 4 of the *Forestry and National Park Estate Act 1998*. The approvals are granted jointly by the Ministers administering the *Environmental Planning and Assessment Act 1979*, the *Forestry Act 1916*, the *National Parks and Wildlife Act 1974*, the *Protection of the Environment Administration Act 1991* and the *Fisheries Management Act 1994*.

In areas that are not covered by Forest Agreements, such as in western NSW, our harvesting is undertaken according to various guidelines jointly developed by the Department of Land and Water Conservation (DLWC) and State Forests.

During harvest planning and licenced harvesting operations, State Forests and external harvesting contractors are required to comply with conditions set out under these licences and guidelines. To ensure that these requirements are met, State Forests and contractors are subject to both internal and external compliance checks and audits.

State Forests’ audit program

Compliance checks are undertaken at a number of levels internally. Internal audits are conducted by State Forests’ officers who are regularly in attendance at harvesting operations, to ensure that contractors undertaking harvesting activities are performing as required. These harvesting inspection reports are undertaken by Supervising Forest Officers (SFOs) as part of their overall harvest supervision duties. In the future, these regional level compliance checks will be audited by the Forest Practices Directorate to ensure each Region’s harvesting system is operating effectively, in conformity with due diligence principles and corporate policy.

Corporate level audits are undertaken by the Management Audit and Review Branch (MAR) of State Forests. This Branch provides a constructive, protective and comprehensive internal audit function within the organisation. It undertakes internal audits of management activities to provide an independent and objective assurance of performance, designed to add value and improve State Forests' operations. To ensure independence and objectivity, MAR reports directly to the Chief Executive and the Audit Committee which approves the annual and three yearly MAR audit program.

Environmental management systems

The Native Forest Management System (NFMS) is a systematic approach by State Forests to the implementation of ecologically sustainable forest management on its native forest estate. NFMS provides both the policy direction and the comprehensive operational systems for forest management.

The NFMS includes components and processes dealing with:

- corporate ESFM policy and strategy;
- open and transparent decision making processes for forest management;
- community consultation to assist in implementing RFA outcomes;
- forest management operational procedures;
- management tools to assist field managers in implementing ESFM;
- skill development and training for State Forests' staff and contractors; and
- processes for measuring and improving performance.

The NFMS will be progressively and continually developed and updated with the involvement of internal and external stakeholders to ensure community expectations are reflected in the way our forests are managed. It will include the broad components required as part of the international standard (AS/NZS ISO 14001) for Environmental Management Systems, but will be adapted to reflect the particular circumstances of management within the native forest estate of State Forests.

An Environmental Management System for our planted forests is also currently being developed by State Forests.

Indicator 20. Regulatory compliance

Description

The number of audits undertaken and the number of fines and breaches reported are used to monitor compliance with both internal Codes of Operation and external licence conditions. State Forests undertakes routine monitoring for compliance and undertakes corrective action where necessary.

Trends

Table 12 summarises the number of non-compliance incidents recorded by our own supervision and the actions taken by regulators over the last two years (see Appendix 7 for full details). The majority of the non-compliance incidents recorded in the past two years relate to accidental tree felling into filter strips and stream exclusion zones. Our regulators acknowledge such incidents occur and our Licences state that action will not be taken against State Forests for these accidental incidents.

An issue that will be addressed in the coming year is the increase from three to five fines issued to State Forests by the EPA for breaches of soil and water regulations.

The number of compliance check sheets completed is determined by the number of contractors undertaking harvesting operations during the year, and the type and duration of each harvesting operation (checks are undertaken every two weeks). The decrease in checks completed compared to the

Table 12. Summary of regulatory compliance during harvesting in 2000–01

| Compliance items | 1999–2000 | 2000–01 |
|---|-----------|---------|
| Number of compliance check sheets conducted | 5,848 | 3,424 |
| Number of non-compliance incidents recorded by State Forests' supervision | 2,039 | 1,538 |
| Number of fines issued to State Forests | 3 | 5 |
| Number of prosecutions conducted against State Forests | 1 | 0 |

previous reporting period is likely to be associated with the down turn in the timber industry resulting in fewer, or shorter, harvesting operations.

The expenditure throughout the year on meeting our environmental regulatory requirements was in excess of \$5.5 million in native forests (Table 13).

This indicator will be further developed to better analyse the nature and seriousness of non-compliance incidents.

Indicator 21. Efficient harvest planning and operational compliance in native forest

Description

Our harvest planning includes a number of processes undertaken to comply with internal codes of conduct and external licence conditions (see story page 46). State Forests expends considerable time and resources meeting these obligations, so it is important to monitor the efficiency of these activities.

During the course of day-to-day operations our staff develop new and frequently cost-saving innovations that not only improve compliance performance but also add value to the organisation and the broader environment. Individual regions also undertake a range of activities beyond those required under the condition of the licence through which State Forests operates. Such initiatives are referred to as 'beyond compliance initiatives'.

Trends

Table 13 presents data relating to a number of the steps in the harvest planning process and the cost incurred by the organisation while undertaking them. It is not yet possible to detect trends in this information. However, in future years it is hoped that this type of information will provide details of the environmental and economic efficiencies of undertaking this work.

Some recent examples of 'beyond compliance initiatives' include:

- Enhancing sub soil drainage during harvesting operations.
- Maintaining visual buffers during harvesting opposite residences.
- Undertaking additional strategic surveys for the Grey-headed Flying Fox, Giant Burrowing Frog and Giant Barred Frog.
- Insertion of a new section on Emergency Meeting Points and Safety Procedures in all harvesting plans, including a project to identify all of the meeting points using Geographic Positioning System (GPS) for description to emergency services.

The Native Forest Management System provides both the policy direction and the comprehensive operational systems for forest management, including harvest planning. The NFMS provides a system for improving our performance in complying with internal codes and external licence conditions.

Table 13. Harvest planning and operational compliance in native forest

| | | 2000–01 |
|---------------------------------------|--|--------------|
| Harvesting plans | Number of harvesting plans commenced | 381 |
| | Number of harvesting plans completed | 316 |
| | Number of harvesting plans implemented | 280 |
| | Expenditure on harvest planning | \$ 4,632,409 |
| Pre-harvest surveys – soil and water | Number of soil and water surveys undertaken | 261 |
| | Area assessed for soil and water (ha) | 64,166 |
| Pre-harvest surveys – flora and fauna | Number of fauna surveys undertaken | 2,082 |
| | Number of flora surveys undertaken | 638 |
| | Number of species protocols invoked | 496 |
| Expenditure on pre-harvest surveys | Expenditure on pre-logging survey and assessment costs for factors such as Aboriginal sites, flora, fauna etc. | \$ 1,641,363 |
| Harvesting compliance | Expenditure on harvesting supervision and environmental compliance | \$5,560,205 |

Not bush graffiti – tree marking codes

Have you ever been driving in a State forest and happened upon dots, lines or tape around trees? Have you been bushwalking and seen letters sprayed on bark? Rather than being random acts of bush graffiti, these symbols are an important communication tool for forest workers.

Before a section of forest is harvested, a planning forester researches and creates a plan for the harvest that takes into account the protection of creeks, rainforests, threatened plant or animal habitat, Aboriginal sites and also compartment boundaries, steep slopes and tracks. The symbols are placed on individual trees from maps in the harvest plan.

While paint and tape have been used by forest managers for a long period of time, the exact symbols and coloured tape varied depending on what part of the State you were in and also on the

forest type and animal species found in the area. But now the symbols have been standardised with the introduction of a tree marking code for all NSW native forest harvesting operations. Implementation of the code has followed the introduction of Ecologically Sustainable Forest Management (ESFM) plans for all coastal State forests in NSW.

State Forests' native forest deputy general manager, John Fisher, said the new standard harvest marking code ensured that State forest operations were transparent and readily understood by all stakeholders. "This standard will be applicable to all State forest harvesting operations and will clearly illustrate exclusion zones, buffer zone boundaries, habitat trees, recruitment trees and eucalypt feed trees," John said.

Some tree markings you might see in the forest and what they mean:

'O' or yellow tape – Compartment boundary;

Three horizontal lines or rings or blue tape – Exclusion zone (not to be crossed or disturbed by fallers or harvesting machinery at any time);

'.' or dots – Trees to be removed;

One horizontal line or ring – Trees to be retained (eg as growing trees);

'H' – Habitat tree to be retained for any flora or fauna;

'R' – retained as recruitment tree for future habitat;

'GB' – to be retained for Glossy Black Cockatoo feed tree or nest;


'Y' – to be retained for Yellow-bellied Glider v-notch feed tree or recorded sighting;

'K' – to be retained as Koala high use tree or feed tree; and

'Q'; 'QL' or 'QD' – area of known Quoll sighting, latrine or den.



Tree marking symbols have been standardised with the introduction of a tree marking code for all NSW native forest harvesting operations. The new code ensures that State forest operations are transparent and readily understood by all stakeholders.



“The challenge before governments, businesses and the community in the new millenium is to develop practical and commercially viable ways to achieve rehabilitation of environmentally degraded land”

Kim Yeadon, Minister for Forestry

Measuring tree roots for studies on carbon accounting.

The term ‘eco-efficiency’ expresses the efficiency with which ecological resources are used to meet human needs. A key component of eco-efficiency is the re-engineering of production processes to include a reduction in the use of resources, and a reduction in pollution, including greenhouse gases.

Forests are recognised as an important carbon dioxide sink and State Forests has been playing a key role in the development of a strategy to address the impacts of greenhouse gas emissions and actions to offset them.

State Forests is addressing eco-efficiency in two ways:

- Through promoting the establishment of a carbon market and promotion of the planting of trees for a number of positive environmental outcomes including carbon sequestration, dry land salinity, water quality and biodiversity enhancement; and
- By employing eco-efficient processes to diminish production of greenhouse gases and other pollutants.

On the carbon trading front, the inconclusive outcome to the long awaited COP6 global climate change talks in the Hague and the follow up discussions in Bonn produced some agreement towards ratification of the Kyoto Protocol. State Forests is continuing to promote the development of a carbon trading market. State Forests has approval to trade up to 250,000 tonnes of sequestered CO₂ equivalent (50,000 tonnes for each year of the first Kyoto Protocol commitment period 2008–2012), and will use that trading opportunity to assist market creation. State Forests is also very active in developing a carbon accounting standard for forests to further underpin confidence in a carbon trading market.

Indicator 22: Annual carbon sequestration in planted forest

Description

This indicator expresses the total annual carbon sequestration within our existing planted forests. The calculations are affected by planted area and any change in the mean annual increment (growth rate) of timber.

Trends

State Forests is developing a full set of carbon accounts for those parts of its existing planted forest estate that are compliant with Article 3.3 of the Kyoto Protocol. This component of the planted forest estate will underpin State Forests' carbon trading activities. The accounts will be consistent with the draft National Carbon Accounting Standard for Article 3.3 compliant planted forests due for release in late 2001 by Standards Australia. To be consistent, the accounts must include a calculation of uncertainty around sequestered carbon estimates. The carbon accounting system used for Article 3.3 forests can then be extended to assess the quantum of sequestered carbon in all of State Forests' planted estate.

In the interim, a preliminary carbon accounting model developed by State Forests has been used to estimate the total sequestered carbon each year over the last few years in the total planted forest estate of which the area compliant with Article 3.3 is only a subset (Table 14). The calculation is based on the net area of plantation. Only the above ground biomass of the trees themselves is included in the calculation.

The below ground biomass of the trees and undergrowth, litter and soil carbon are excluded. A more comprehensive model is used for carbon trading activities, and this is being further developed to enable more general application across the total planted forest estate.

It should be noted that only the increase in the quantum of sequestered carbon from Article 3.3 compliant planted forests can be traded and decreases must be accounted for and treated as emissions.

Energy efficiency

As a Government Trading Enterprise, State Forests has made a voluntary decision to participate in the Government Energy Management Policy. The Policy expresses the Government's commitment and responsibilities under the National Greenhouse Strategy. By pursuing measures within its own operations State Forests is demonstrating leadership in its commitment to reducing greenhouse gas emissions.

State Forests' activities in this area are focused on management of energy consumption. The organisation undertakes pro-active management aimed at reducing use of electricity, petrol and diesel as well as general materials.

Table 14. Annual carbon sequestration in planted forest

| | 1997-98 | | 1998-99 | | 1999-2000 | | 2000-01 | |
|-----------------------------|--------------------------------|---|--------------------------------|---|--------------------------------|---|--------------------------------|---|
| | Net plantation area (ha) | CO ₂ sequestered (tonnes)* | Net plantation area (ha) | CO ₂ sequestered (tonnes)* | Net plantation area (ha) | CO ₂ sequestered (tonnes)* | Net plantation area (ha) | CO ₂ sequestered (tonnes)* |
| <i>Planted forest type:</i> | | | | | | | | |
| Softwood | 206,006 | 2,284,402 | 210,714 | 2,336,609 | 201,729 | 2,236,974 | 204,817 | 2,271,217 |
| Hardwood | 42,084 | 496,531 | 44,360 | 523,385 | 46,000 | 542,734 | 49,493 | 583,947 |

* Assumptions: CO₂ sequestered (tonnes) = net plantation area x (a) x (b) x (c) x (d), where:

- mean annual merchantable increments of 16 m³/ha/ann (softwood) and 13 m³/ha/ann (hardwood)
- Basic density of 0.42 tonnes/m³ (softwood) and 0.55 tonnes/m³ (hardwood)
- Carbon content of wood 0.45 tonnes of oven dried wood
- 1 tonne carbon is equivalent to 3.667 tonnes of CO₂

Indicator 23. Energy consumption

Description

The quantity and type of electricity and fuel consumed in the process of managing and harvesting forests are recorded to monitor our contribution to atmospheric carbon. This indicator does not provide information on emissions as a result of timber harvesting. The percent of green power consumed as a proportion of total energy consumption is used to indicate our progress towards reducing the impact of this component of our production processes on the environment.

Trends

While this is our first year reporting on this indicator, data is available for the past three years. Table 15 shows consumption of greenhouse gas producing substances for the whole organisation and the amount of atmospheric carbon released as a consequence. Further details are provided in Appendix 8.

Based on the data collected, electricity and fuel consumption account for 35% and 65% of CO₂ emissions respectively. State Forests maintains a fleet of 812 vehicles and 236 trucks and light and heavy plant equipment (see Appendix 9 for details) which significantly effects the quantity of fuel State Forests consumes. With respect to electricity consumption, over the last three years. State Forests has increased the proportion of 'Green Power' purchased to 12.5% of all electricity consumed.

Table 15. Energy consumption and CO₂ emissions

| Year | Electricity (kWh) | Green Power as % of electricity consumed | Fuel consumption (kWh) | Total energy (kWh) | CO ₂ emissions (tonnes)* |
|-----------|-------------------|--|------------------------|--------------------|-------------------------------------|
| 1998–99 | 15,588 | 7.6% | 96,304 | 111,893 | 10,419 |
| 1999–2000 | 15,265 | 12.6% | 95,509 | 110,774 | 10,066 |
| 2000–01 | 14,898 | 12.5% | 95,842 | 110,740 | 10,032 |

* The NSW Ministry of Energy and Utilities energy data collection system was used to convert energy and fuel consumption to CO₂ emissions.

Indicator 24. Material consumption and recycling

Description

Recording the consumption and disposal of paper goods and other office products by the offices of State Forests helps us to track our contribution to landfill and monitor programs to increase recycling and reduce office waste.

Trends

As this is the first year of reporting on this indicator no trends are available for analysis (Table 16).

A noticeable component of our paper consumption is the very low amount containing re-cycled paper. This is due to requirements of printers and copiers installed by the organisation.

Table 16. Material consumption*

| Product | Total quantity purchased | % purchased with recycled content | Total quantity waste generated (tonnes) | % recycled |
|--------------------------------|--------------------------|-----------------------------------|---|------------|
| Copy paper (reams) | 13,982 | 0.1% | 33 | 82% |
| Other paper products** (items) | 196,500 | 15.3% | 19 | 87% |
| Toner cartridges | 804 | 33.2% | 746 | 33% |

* This indicator is reported on a calendar year basis. This data is for the year 2000.

** Consists of envelopes, files, binder covers, note pads, manilla folders.

The background of the entire page is a photograph of a forest, heavily tinted with a bright yellow color. The image shows numerous tall, slender tree trunks rising vertically, with some foliage visible at the top and bottom. In the lower right corner, two small figures of people can be seen walking through the forest floor.

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.

“The application of good silviculture will ensure that north coast forests continue to provide a range of values, including biodiversity and timber production”

John Mills, Regional Manager, Mid North Coast Region

Resource inventory and silviculture ensure long term productivity of forests.

One of our main forest management objectives is to ensure our forest practices, including timber harvesting, are undertaken in a manner which provides for a perpetual supply of forest products in line with community expectations and to ensure all native forests are regenerated to their original forest ecosystem type.

Managing forests is a long-term process. The impact of decisions and actions in our management today may not be visible in the forest for many decades. New management practices can take decades to implement and/or to have effect on forest growth and production. Implementing good silvicultural practices is key component of long-term forest productivity (see page 56). Monitoring and maintaining the forest’s productive capacity is critical to maintaining its ability to provide, in perpetuity, a vast range of products and services.

Measuring the sustainable production capacity is not an easy task, as the true productivity of a forest must be modelled over several centuries rather than in just a few short years. In this report five indicators have been used across the forest to monitor productivity. The timber productive capacity of the forest has been targeted, as harvesting is the most dramatic impact highlighted by our stakeholders.

Indicator 25. Forest available for timber production**Description**

Within the estate managed by State Forests an important sustainability indicator is how much of the forest has a special management focus on conservation and how much of the forest has a management focus on timber production. The area available for timber production is a major determinant of the sustainable supply of timber products by the organisation.

Trends

The finalisation of the Southern RFA has changed the area of forest that is available for timber production from 1999–2000.

Table 17 illustrates the area available for timber production. Currently, the level of land available for harvesting within native forests is 61% of the total native forest estate. In our planted forest estate, 71% of the total planted forest estate is available for harvesting.

There was a reduction in Special Prescription areas between 1999–2000 and 2000–01 and this can largely be attributed to the transfer of Woomargama State Forest (approximately 30,000 hectares) to NPWS management after the completion of the Southern RFA. Other increases or reductions in the areas of non-harvest management zones can be attributed to other Southern RFA outcomes and refinements of State Forests' Forest Management Zoning system.

Indicator 26. Plantation establishment**Description**

This indicator tracks the area of new plantation and second or third rotation plantations established during the year. The area planted to hardwood species is mostly new planted forest. About half of the recently planted softwood trees are in new plantation areas, while the other half are planted as second and third rotation crops onto existing plantation estate. New planted forests are established on former agricultural land that is either purchased by State Forests or by contractual arrangement with private land owners.

Trends

Figure 13 records the area of forest planted during the last six years. The establishment rate of hardwood plantation has declined in the last 2 years. High rates of hardwood plantation establishment in 1998–99 were driven by Government policy to rapidly establish a substantial resource to supplement industry reliance on native forests. Direct State Government intervention in this area has since been overtaken by funding arrangements under Regional Forest Agreements on the north coast and a recognition that the private sector is now taking up an increasing role in this area.

Table 17. Area of forest available for timber production

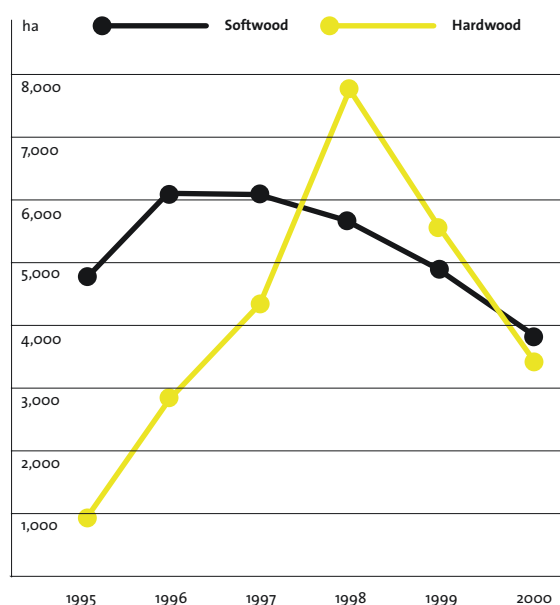
| Forest Management Intent | 1999–2000 | | 2000–01 | |
|---------------------------------------|------------------|-------------------------------|------------------|-------------------------------|
| | Non harvest land | Land available for harvesting | Non harvest land | Land available for harvesting |
| Dedicated Reserve | 33,500 | 0 | 34,581 | 0 |
| Informal Reserve – Special Management | 322,500 | 0 | 303,338 | 0 |
| Informal Reserve – Harvest Exclusion | 199,000 | 0 | 239,277 | 0 |
| Special Prescription | 54,500 | 13,500 | 8,552 | 21,728 |
| General Management Native Forest | 387,500 | 1,368,000 | 382,701 | 1,190,416 |
| Hardwood planted forest estate | 0 | 46,000 | 0 | 49,493 |
| Softwood planted forest estate* | 102,600 | 201,720 | 103,653 | 204,817 |
| Non forestry use | 8,000 | 0 | 10,914 | 0 |
| Land for further assessment | 0 | 326,500 | 0 | 304,040 |
| Total forest estate | 1,107,600 | 1,965,720 | 1,083,017 | 1,770,494 |

* Developments in the softwood planted forest information system have resulted in improved data for the 1999–2000 reporting period. This information has been used in this report.



Hardwood plantations will continue to provide new business and environmental solutions.

Figure 13. Area of planted forest established annually since 1995



Indicator 27. Percent of planted forest effectively stocked

Description

The establishment of new planted forest and re-establishment of existing planted forest after final harvesting is contributing to the development of a sustainable timber supply in NSW. To enhance the productivity of a newly planted forest it is vital to achieve vigorous growth in the first few years. State Forests monitors the effective establishment of newly planted forest by undertaking surveys of seedling survival in the first year after planting. If survival rates are generally low or low in specific locations, the failed areas are replanted. Secondary survival counting is sometimes undertaken if plant health, disease or adverse weather conditions warrant further examination.

Trends

Table 18 shows that forest planted in 2000–01 attained a lower level of establishment than in previous years. Lower levels of effective stocking in softwood plantations (96%) were experienced as a result of problems with stock of *Pinus pinaster* imported to NSW from Western Australia. In the hardwood plantation estate, a very hot and dry planting period, which was punctuated by two major flooding events, reduced the otherwise successful establishment of stock to 95%.

Table 18. Percent of newly planted forest effectively stocked

| Landcover | Effective stocking of new plantation | | |
|-------------------------|--------------------------------------|------|---------|
| | 1998 | 1999 | 2000–01 |
| Hardwood planted forest | 94% | 100% | 95% |
| Softwood planted forest | 97% | 98% | 96% |

Indicator 28. Mean annual growth of planted forest

Description

A mechanism for offsetting the timber trade deficit is to maintain high productivity in our planted forests. By monitoring the mean annual growth of planted forests, management is able to focus on maintaining and improving productivity through maintaining forest health and soil fertility and improving genetic stock and silvicultural practices.

Data is currently un-available for the hardwood plantation estate. It is anticipated that this information will be available in the next reporting period.

Trends

This indicator has been revised from that reported in past years. Previously this indicator reported on the current level of commercially available planted softwood forest. This is planted forest that has already been logged by a thinning operation or is of an economical age (greater than 14 years old). Anomalies have been identified with this method as higher than expected growth rates were being generated due to large increases in the area of commercial age plantation in some years, in particular 2000–01. As a result, the method for calculating this indicator has been reviewed.

As our data and management systems have improved over recent years we are now able to provide a calculation of mean annual increment across the softwood planted forest estate ie not just for the commercial age plantation (Table 19). The indicator is calculated by dividing the annual increment (change in timber volume) for the next 15 years across the estate by the net stocked area. This indicator is a better reflection of the sustainability of the resource over time.

Due to the change in indicator method, we are not able to compare this year's results with previous years but trends will be measured from now on.

Table 19. Current growing stock in planted softwood forest

| | 2000–01 |
|--|-----------|
| Annual increment* (m ³) | 3,464,571 |
| Net stocked area** (ha) | 204,817 |
| Mean annual increment*** (m ³ /ha/yr) | 16.9 |

• 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 (ie 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.

Indicator 29. Removal of sawlogs compared to allowable volume

Description

The volume of high quality veneer logs and sawlogs that is allowed to be cut from the forest is set at an agreed sustainable level of production. For native forests in eastern NSW this level of production has been established through the Regional Forest Agreement process. The Forest Agreements prescribe the allowed volume of logs harvested in these native forests. Elsewhere, the sustainable level of production is established through our Marketing, Resource, Planning and Operational divisions.

The harvesting of lower quality logs is associated with the ability to maintain the harvesting of high quality logs. In the longer term it is important that the level of actual harvest does not exceed the agreed sustainable level of production.

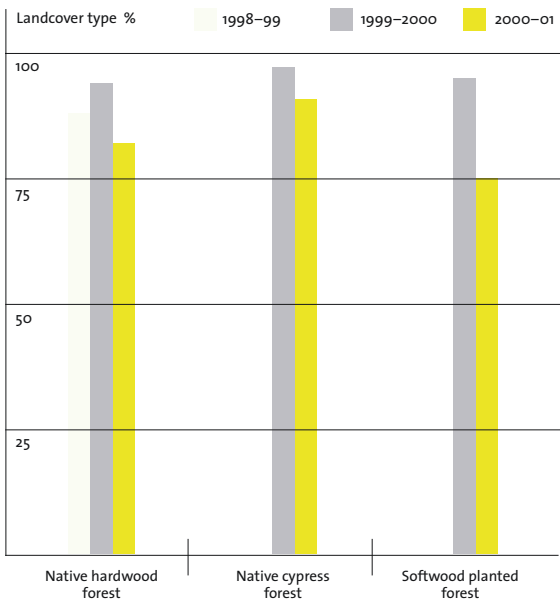
Trends

Figure 14 shows the percentage of committed volume actually harvested for high quality veneer logs and sawlogs. The downturn in the timber industry in the last financial year resulted in a decline in the volume of sawlogs harvested, particularly for softwoods which are used extensively in the housing market.



Over 1.3 million m³ of sawlog were harvested from the softwood plantation estate in 2000–01.

Figure 14. Percentage of high quality logs harvested compared to allowed rate



Indicator 30. Percent of native forest regenerated

Description

This indicator monitors the maintenance of the productive capacity of our native forests through regeneration. Regeneration of native forests after harvesting is the source of future forests and the key to maintaining future timber supplies as well as other ecological values within forest ecosystems. The nature of eucalypt and cypress pine forests allows for the natural regeneration of seedlings following a logging operation or restocking by State Forests.

Trends

In the 2000–01 reporting period State Forests conducted 24 regeneration surveys, 16 in South East Region and 8 in Riverina Region, covering 2,157 hectares of logged native forest (Table 20). These surveys are usually conducted from nine to twenty four months after logging is complete. The surveys determined that 95% of the areas harvested and surveyed contain effective regeneration that is likely to develop into vigorous regrowth stands. Further interpretation of the results is difficult due to the limited geographic coverage of the data. However, State Forests is currently developing a process for routine post-harvest monitoring, including regeneration surveys and retained tree surveys, to monitor silvicultural outcomes following harvesting.

Table 20. Percent of recently harvested native forest effectively regenerated*

| | 1997-98 | 1998-99 | 1999-00 | 2000-01 |
|---|---------|---------|---------|---------|
| No. of regeneration surveys undertaken | n/a | 63 | 28 | 24 |
| Area surveyed (ha) | n/a | 3,942 | 3,644 | 2,157 |
| Percent of harvesting with effective regeneration | n/a | n/a | 98% | 95% |

* This indicator does not report regeneration surveys undertaken in cypress forests.

Silviculture – the science and the art of forestry

Silviculture is one of the most commonly used words in State Forests of NSW and other forestry agencies throughout the world. But what exactly does it mean?

The word “silviculture” is derived from the Latin words “silva” meaning forest, wood or park and “cultura” meaning cultivation. Silvanus was the Roman god of forests and fields, while sylvan creatures were the fabled inhabitants of the woods.

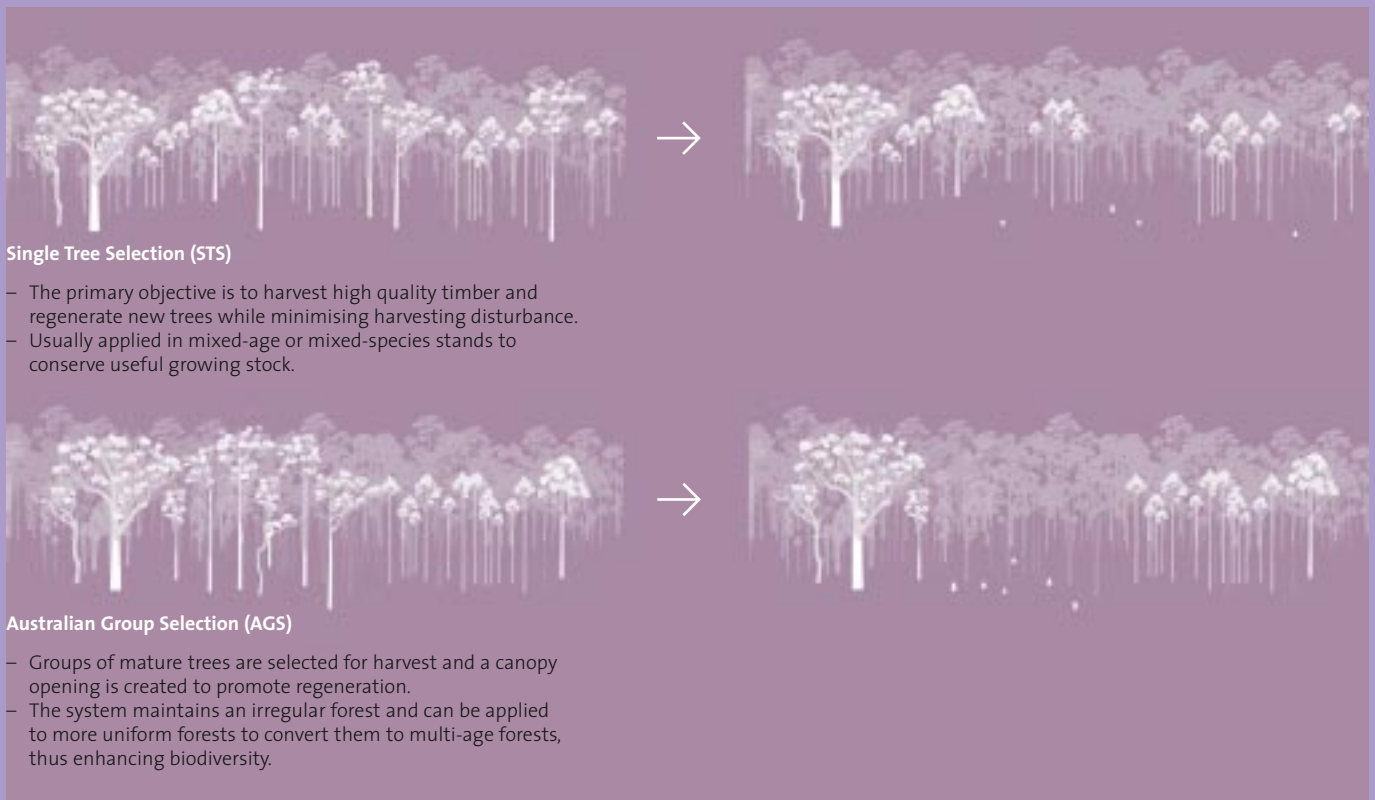
Last year we reported that a Silviculture Manual would be released to assist with the introduction of consistent methodology for establishing regeneration in all harvest areas. In the past year, as part of its native forest management system, State Forests successfully developed this manual to guide forest managers’ efforts to sustain or enhance the productivity, vitality and diversity of forest ecosystems. The manual also ensures that State Forests’ silvicultural practices are publicly documented as part of an accountable and transparent forest management system.


The manual’s author and State Forests’ South East region strategic planning manager, Vic Jurskis, said the document details an adaptive management system that will ensure continual improvement in silviculture as part of forest management.

“Site specific silviculture is detailed in harvesting plans,” Vic said. “Each plan must describe stand conditions, outline the values of the site and identify the outcomes expected of the silvicultural operation.

“The silvicultural systems we use in eucalypt forests in NSW are based on removing individual trees, or a group of trees, to encourage regeneration. Clearfelling is not part of the silviculture used in public native forests in NSW,” Vic said.

It is hoped that the manual will contribute to better community awareness and understanding of the practice of silviculture in NSW, as well as providing State Forests’ staff with a valuable management tool.





"My role as manager of Monaro Region will be to work with the community to manage their softwood plantations as a sustainable land use that generates wealth for the people of NSW"

Bob Germantse, Regional Manager, Monaro Region

Sawlogs harvested from State forest are used for a range of products.

Marketing and sale of timber is included as a forest value for the first time this year in recognition of its core value to the organisation and the community. State Forests takes the opportunity to answer some common questions about the marketing and sales process, such as an explanation of where various timber products come from and how we value and sell our timber.

In NSW timber is harvested from trees that grow either in native forest ecosystems or in plantations. Inventories of how much and what type of trees are in the forest are undertaken and are used to develop plans of operations for individual compartments that range in size from tens to hundreds of hectares.

Once the timber has been harvested, it is transported to mills for further processing. Most timber goes to sawmills which produce various sawn timber products such as house framing, fencing, floorboards, decking and furniture. Some logs are processed into round timber such as poles and treated posts or into veneer for plywood. Sawmill residue and pulpwood logs are used for pulp and paper and reconstituted timber products (eg particle board, medium density

fibreboard (MDF) etc. The diagram on pages 58 and 59 demonstrates what parts of native and planted forest trees are used to make various timber products.

State Forests undertakes post harvesting assessments and silvicultural treatments to ensure the regrowth of a productive forest.

The Marketing Division of State Forests, with support from industry groups, assesses the markets for timber price and volume trends over time. This helps the industry understand how the timber market is performing, where there will be short falls in supply to domestic markets and what products and species need to be planted, managed and cut in the future.

Where does timber come from?

Native Forest



Planted Softwood Forest

Indicative softwood products

Residue

Pulpwood

- Reconstituted timbers (medium density fibreboard, particle board, oriented strand board)
- Paper products
- Other preservation timbers

Unpruned sawlog

- House framing
- Decking and panelling
- Fencing and landscaping
- Flooring
- Joinery and furniture

Pruned sawlog

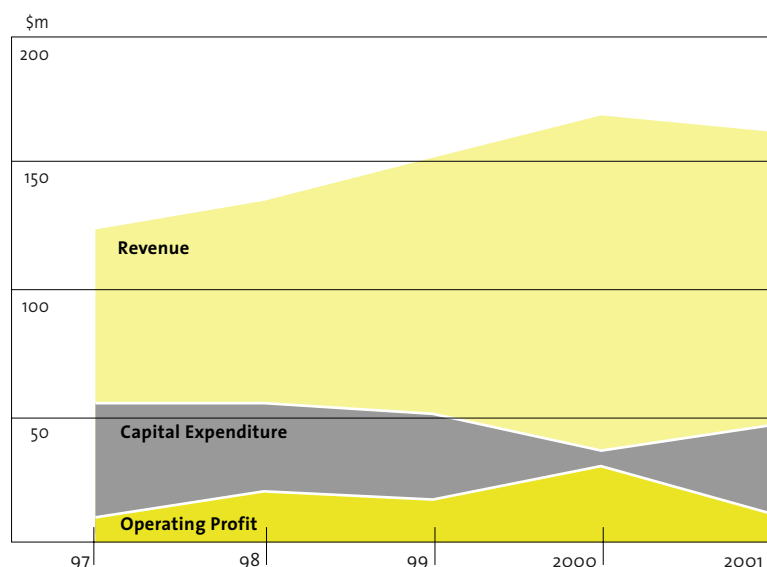
- Large sawlog
- Feature grade joinery and furniture
- Bearers and joists
- Select flooring

Veneer

- Furniture
- Benchtops

Stump

Figure 15. Operating profit



How is timber valued?

Hardwood species sawlogs are priced using State Forests' Hardwood Log Value Pricing System (LVPS). This pricing system estimates the relative log values according to their assessed value to industry. That is, logs are valued to reflect the end products derived from the variety of species, log sizes and log qualities available. In this way, the Government's value adding objectives are supported by pricing sawlogs to reflect their highest potential market value of the different product mix derived from those logs. This system also provides for price equity between log purchasers and is consistent, transparent and durable. This system also aims to identify and monitor market indicators to ensure that log prices continue to reflect market conditions.

Softwood species sawlogs are priced according to the outcomes of competitive tenders and reviewed in accordance with movements in the market for relevant timber products.

How does State Forests sell timber?

State Forests' timber allocation process is beginning to move away from historical wood supply allocations to a competitive tendering of wood. Assessment criteria in a competitive tender include financial return, marketing issues, value-adding and regional development issues. Following complete evaluation, volume allocations are recommended from which point State Forests can undertake negotiations with the successful parties with the aim of entering into Wood Supply Agreements with the companies

Figure 16. Timber sales per employee (\$)

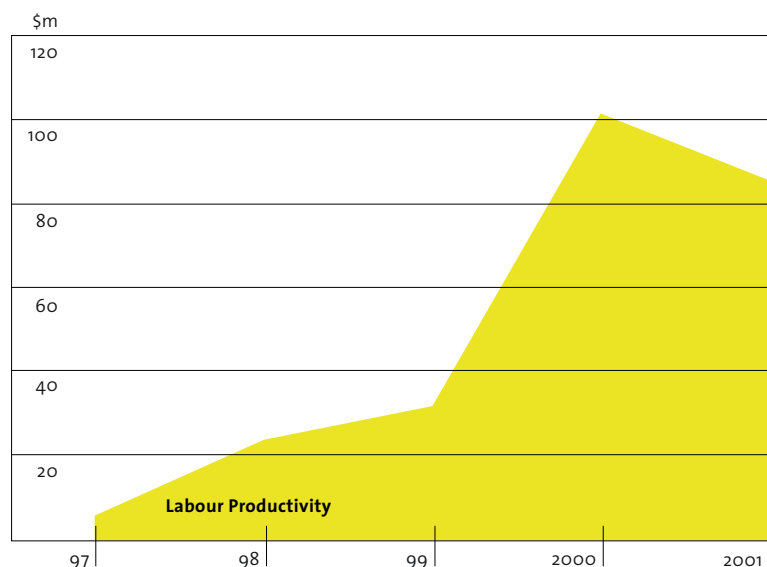
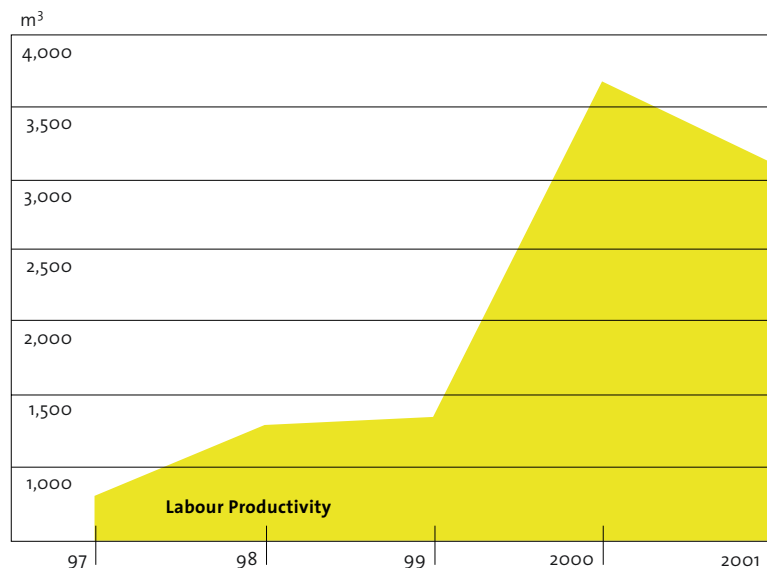


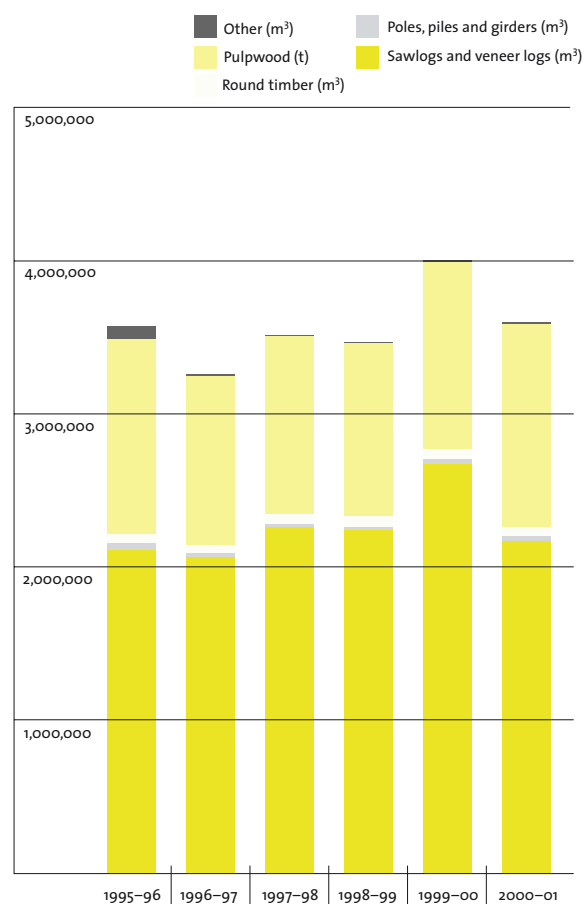
Figure 17. Timber sales per employee (m³)





A single grip harvester in operation in native forest.

Figure 18. Volume of logs harvested in planted and native forest



Indicator 31. Volume of timber harvested

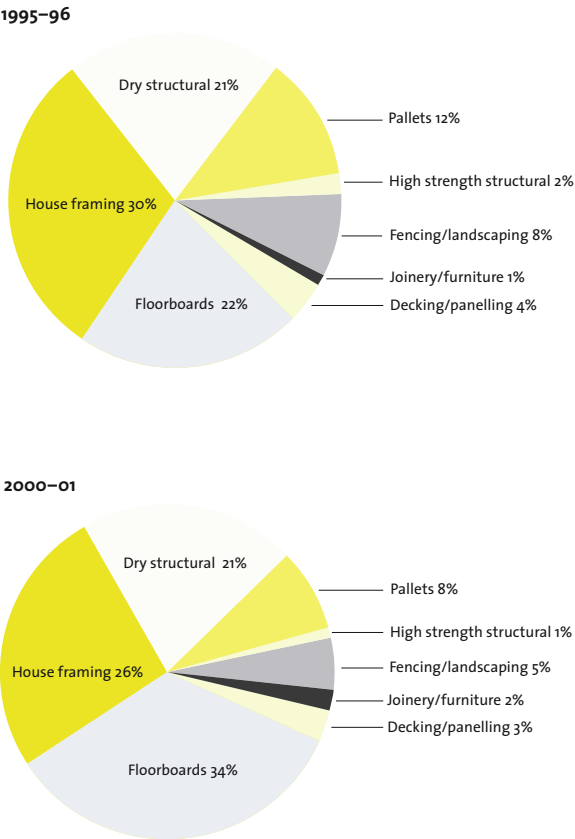
Description

A core management objective of State Forests is the sustainable supply of timber and wood products to our community and economy. Change in the volumes of logs harvested reflects both the market fluctuations in the building industry and more importantly demand for different timber products. Timber supply is therefore a very important measure of our performance for many of our key stakeholders.

Trends

Figure 18 and Appendix 10 show the volumes of timber sold during the last five years. Total sales of logs for planted and native forests have fluctuated during the last five years, reflecting the swings in the housing market. The decline in volume harvested during 2000-01 compared to the previous year can be attributed to the downturn in the building industry following the introduction of the Good and Services Tax (GST). While the drivers for recovery in the building sector are starting to fall into place, it will be some time before sustained growth will generate normal business activities.

Figure 19. Sawlog product mix from hardwood forests (native and plantation)

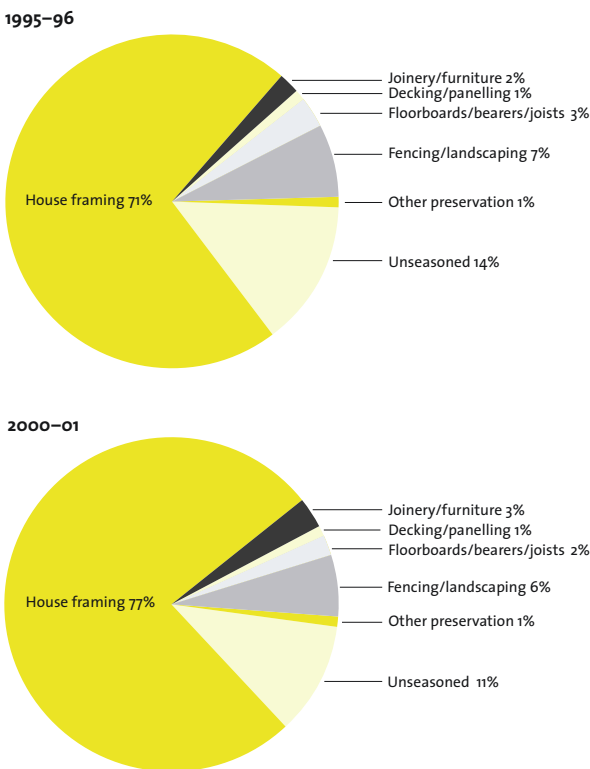


Indicator 32. Sawlog product mix of volume harvested

Description
Market demand for sawn timber contributes significantly to the type and volume of timber that is removed from different forest types. As market demand for sawn products changes so does the type, volume and quality of timber removed from forests. Monitoring change in product mix help us plan our harvesting operations to make sure market demands can be met and confirms our focus on value-added products.

Trend
Because market demand changes slowly, data is presented for a 24 month period, at a five-year interval. For hardwood products (Figure 19) there has been a shift from relatively low value products, such as pallets and house framing to high value products such as flooring. However in the softwood market (Figure 20) the demand for house frames has seen a shift to this product from unseasoned products and landscaping supplies.

Figure 20. Sawlog product mix from softwood plantation



What is a Kraft Pulp Mill?
The Visy mill is known as a kraft pulp mill because it uses the kraft (or sulphate) process developed in 1879 by Dahl, a German chemist. This involves using an alkaline solution to separate the wood fibres in a cooking process. Small logs are chipped and processed into kraft pulp, which is used to make paper (kraft linerboard) for cardboard boxes. The Tumut mill ranks in the top four mills in the world for leading-edge technology in kraft pulp production.



The new Visy kraft pulp and paper mill at Tumut is the latest industry attracted to the region by the vast pine plantation resource established and managed by State Forests. The new \$400 million facility represents a major economic boost to Tumut and surrounding regional communities.

Pine plantations supplying Visy's new mill

State Forests is drawing on its plantation resources around Tumut and Tumbarumba – the largest pine-growing region in Australia – to supply Visy's new pine pulp and paper mill. The \$400 million state-of-the-art mill, near Tumut, took its first delivery of pulpwood from Buccleuch State Forest in July. Since then, contractors Ryam have been delivering 1,200 tonnes of pulpwood a day, seven days a week.

Minister for Forestry, Kim Yeadon, said State Forests' staff felt a great deal of satisfaction when the first load of small logs was delivered earlier this year. "In the past, there have been limited markets for smaller logs but now, with the advent of the Visy mill, State Forests sees a great future for them," Mr Yeadon said.

"It is very important to understand that pine plantations need to be thinned in order to produce larger logs best suited to high-value products, mainly used in the construction industry. The thinning process is designed to create more space and less competition to allow the best trees to grow on so that optimum use can be made of the resource. During this process the lower-value material (pulpwood) is removed. Ultimately, the key to making

the best of use of the resource is finding a market for the entire forest and Visy has allowed us to do just that with its new mill."

State Forests has a 30-year agreement to supply Visy with up to 450,000 tonnes of pulpwood a year. The establishment of an additional 30,000 hectares of new plantation over the next 10 years is also part of the agreement.

"The greater development of the pine resource in the area will lead to a host of further opportunities as the plantations mature," Mr Yeadon said. "During the peak of construction at the mill, more than 900 people were employed on site. Ongoing, there will be 150 jobs at the mill, plus another 350 jobs in supporting areas such as harvesting and haulage."

Visy's fibre and forestry manager, Kenneth Epp, said the availability of a sufficient pulpwood resource was the key factor in the choice of the mill's location. "With the first deliveries of pulpwood, we are making pulp out of a blend of 75 per cent plantation-grown thinnings and sawmill residues, and 25 per cent recycled paper," he said.

The mill will produce 240,000 tonnes of unbleached kraft pulp and packaging paper each year to supply both domestic and export markets. "This pulp and paper mill is important for its import replacement value and the development of an export market to meet overseas demand, particularly in Asia, which means more jobs," Mr Epp said.

He said the mill would be officially opened in November with celebrations on site befitting such a massive achievement.

“We hear so much about ecological sustainability these days and this forest will offer everyone a chance to see it in action – government agencies, industry, the community and the environment, working together to produce good outcomes for wildlife, society and the economy.”

John Fisher, Deputy General Manager, Native Forests Division

State Forests recognises that reporting on sustainability itself is not a means to an end. Reporting is the output of State Forests’ sustainability performance and not the process. What is important is that the report provides feedback that is incorporated into how State Forests undertakes and improves our performance in our day to day operations.

There is no one path to sustainability, however there are some critical success factors. One such success factor is a partnership approach between all sectors of the community to achieve shared positive outcomes. State Forests has recognised this need and this is reflected in the forest values presented in the report this year.

State Forests in partnership with the Australian Conservation Foundation, Amnesty International, Community Business Partnerships, State Chamber of Commerce and the Sydney Peace Foundation is also responsible for founding “TBL NSW” during 2001. This forum aims to explore triple bottom line issues across business, the community and government. State Forests looks forward to reporting the progress that TBL NSW makes over the next year.

As part of the independent report review and verification this year, SIRIS identified some key improvements that could be made to the report. Some of these improvements have already been incorporated into this year’s report, such as creating a feedback mechanism within the report (see below) and addressing some indicator specific comments.

State Forests is committed to improving the report and, drawing on SIRIS, internal and external stakeholders’ advice, we propose to make the following enhancements:

- Continue the independent verification of the report;
- Improve internal data checking procedures;
- Undertake a comprehensive internal and external review of the new *Seeing* report;
- Review the usefulness of current indicators and consider the inclusion of additional indicators;
- Investigate and implement improved data collection and management systems;
- Assess options for improving our web based reporting of *Seeing*;
- Continue development of TBL accounting methods;
- Demonstrate how sustainability reporting outcomes translate into day to day management practices;
- Develop indicator targets; and
- Address stakeholder feedback within the report, including monitoring of complaints.

State Forests values your feedback

State Forests hope you found our *Seeing* report valuable, informative and easier to read. Your feedback on our report is valued and State Forests encourages you to let us know your views by filling in and returning the feedback form attached to this report.

State Forests of New South Wales (State Forests) commissioned the Sustainable Investment Research Institute (SIRIS) to verify the data and content of this Social, Environmental and Economic Report 2000/2001 (the 'report'). This is State Forests' fourth external environmental and social reporting cycle and the first to be subject to an independent audit process. State Forests has the responsibility for the preparation of the report and this statement represents the auditor's independent opinion. SIRIS was not responsible for preparation of any part of this report.

Verification scope

There are currently no statutory requirements or generally accepted standards for the preparation, public reporting and attestation of non-financial stakeholder reports. In the absence of such standards, our approach to verification is based on emerging international best practice and this statement is constructed based on the recommended approach by the Global Reporting Initiative's Sustainability Reporting Guidelines.

The verification scope included:

- a review of the report for any major anomalies;
- an examination of State Forests' measurement and reporting procedures, background documentation and data collection and reporting procedures; and
- the execution of an audit trail of selected claims and data streams to determine the level of accuracy in collection, transcription and aggregation processes.

The scope of the verification process also comprised consultation with internal and external stakeholders to the report to seek their views on the value of the report and ways in which it could be further improved.

Verification process

The report verification was undertaken in September 2001, using an audit process that is based on an annual rotation of assessing parameters and sites. One regional site, Macquarie Region at Bathurst, was visited as part of this year's audit program. The audit involved:

- a series of interviews with key personnel responsible for collating and writing various parts of the report in order to ensure selected claims were discussed and substantiated;
- a review of State Forests' policies, objectives, management systems, monitoring and reporting procedures and an examination of selected data sets including several drafts of the report; and
- the examination of the aggregation and derivation of, and underlying evidence for, data presented and statements made in the report.

Our Opinion

- Each of the data trails selected was easily identifiable and traceable and the personnel responsible were able to reliably demonstrate the origin(s) and interpretation of data.
- Majority of the data and information presented were found to be accurate. However, some level of data inaccuracy was found with anomalies attributable to excel spreadsheet errors, human transcription, interpretation and aggregation errors.
- The completeness review indicated a high level of correlation between State Forest's key social and environmental issues and its operational boundaries and the extent of coverage by this report.

Overall the auditor is satisfied that:

- the report is a fair and honest representation of the organisation's policies, management systems and performance. The report is fairly presented and materially not mis-stated;
- the report is a good reflection of management commitment towards addressing social and environmental issues and is a fair description of performance achieved during 2000/01; and
- the written statements made and data presented in the report accurately reflect the results and progress achieved during the reporting period.

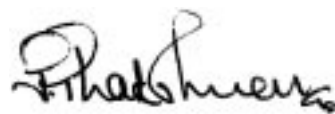
General Findings and Recommendations

The following observations and recommendations are made as a result of the verification process to assist in further improving the standard of reporting:

- A review of the data collection and reporting procedures is recommended. Emphasis should be placed on information collection systems that allow less room for human transcription errors.
- Whilst a round of stakeholder consultation was undertaken as part of the verification, a focussed working session on further developing triple bottom line performance measures is recommended.
- External and internal stakeholders consulted generally commended State Forests' external reporting performance but sought continuous improvement in reporting.
- State Forests' commitment to sustainability is reflected in the significant leaps in evolution of the external reporting processes. The organisation and its personnel are genuinely committed to improving the organisation's sustainability performance as well as the industry sector's external image.

The above findings represent a summary of a more detailed assessment report presented to State Forests.

On behalf of the audit team
5th October 2001
Melbourne, Australia



Terence Jeyaretnam
Accredited Environmental Auditor (EPA Victoria)
Senior Environmental Auditor (QSA)
Principal, SIRIS

Appendix 1. Number of community forums attended

| Community forum categories | Number of meetings | | | |
|------------------------------------|--------------------|--------------|--------------|--------------|
| | 1997–98 | 1998–99 | 1999–00 | 2000–01 |
| Community bushfire management | 252 | 470 | 363 | 375 |
| Catchment management | 213 | 153 | 126 | 104 |
| Local emergency management | 14 | 23 | 14 | 17 |
| Community/school/education | 63 | 255 | 752 | 239 |
| Local government | 46 | 55 | 72 | 93 |
| Flora and fauna management | 47 | 52 | 30 | 47 |
| Cultural management | 116 | 285 | 214 | 137 |
| Feral animals/noxious weed control | 44 | 99 | 72 | 145 |
| Industry/stakeholders | 67 | 155 | 110 | 188 |
| Recreation/tourism | 17 | 53 | 64 | 52 |
| Regional planning/RFA | 79 | 83 | 94 | 43 |
| Conservation/environmental | 40 | 105 | 104 | 80 |
| Forestry/forest practices | 29 | 79 | 47 | 35 |
| Other | n/c | 73 | 37 | 51 |
| Total | 1,027 | 1,954 | 2,099 | 1,606 |

Source: Records from minutes, files, personal diaries

Appendix 2. Recreational facilities provided and organised events

| Recreational facilities provided | Number of facilities | | | |
|----------------------------------|----------------------|------------|------------|------------|
| | 1997–98 | 1998–99 | 1999–00 | 2000–01 |
| Roadside rest areas/picnic areas | 160 | 123 | 119 | 87 |
| Forest drives (marked) | 30 | 34 | 31 | 24 |
| Forest walks (marked) | 90 | 61 | 61 | 46 |
| Lookouts | 84 | 71 | 49 | 33 |
| Camping areas | 308 | 225 | 266 | 115 |
| Camps/huts/cottages | 17 | 15 | 25 | 23 |
| Other* | 2 | 3 | 16 | 273 |
| Total facilities | 691 | 532 | 567 | 601 |

| Permits for organised recreation activities | | Number of permits | | | |
|---|------------|-------------------|------------|------------|---------|
| | | 1997–98 | 1998–99 | 1999–00 | 2000–01 |
| Eco tourism/4x4 tours | 54 | 42 | 87 | 50 | |
| Horse, trail and endurance rides | 32 | 32 | 32 | 45 | |
| Car rallies/go carts | 38 | 36 | 36 | 34 | |
| Motor bike rallies | 6 | 8 | 6 | 5 | |
| Mountain bike rallies | 30 | 6 | 5 | 20 | |
| Orienteering/mountain runs/triathlon | 37 | 37 | 34 | 21 | |
| Bushwalking | 23 | 9 | 8 | 21 | |
| Bowhunting/archery | 60 | 5 | 20 | 14 | |
| Other | 22 | 13 | 29 | 28 | |
| Education/outdoor education schools | 27 | 45 | 272 | 575 | |
| Training/exercises | 152 | 77 | 84 | 79 | |
| Total activities | 481 | 310 | 613 | 892 | |

| | | | |
|--|--------------|-------|-------|
| Area zoned primarily for recreation (ha) | not reported | 4,754 | 2,406 |
|--|--------------|-------|-------|

* An additional number of 'other' facilities have been reported this year. This is primarily due to Riverina Region including over 250 informal facilities not previously counted, consisting of camping and picnic areas that are maintained on a regular basis but which do not provide extensive facilities and infrastructure.

Appendix 3. Quantities of other forest products

| Forest product | Unit | 1997-98 | 1998-99 | 1999-00 | 2000-01 |
|-----------------------------|------------------|-----------|-----------|-----------|-----------|
| Grazing | Ha's | 768,946 | 727,206 | 764,377 | 711,537 |
| Apiculture | Sites | 3,843 | 4,249 | 4,022* | 3,467 |
| Leaf/oil | Kg's | 8,013 | 5,465 | 6,874 | 911 |
| Seed | Kg's | 969 | 214 | 688 | 2,460 |
| Bark | Tonnes | 1,109 | 18 | 1,035 | 10 |
| Firewood | Tonnes | 75,615 | 66,970 | 77,628 | 77,203 |
| Broombush | Tonnes | 1,977 | 2,303 | 2,442 | 2,523 |
| Charcoal | Tonnes | 119 | 1,333 | 1,805 | 1,183 |
| Craft timber | Cubic metres | 33 | 38 | 4,127 | 519 |
| Misc native plants pieces** | Number | 1,219 | 8,179 | 23,449 | 9,873 |
| Burls | Tonnes | 44 | 16 | 13 | 12 |
| Wood blocks | Number | 0 | 435 | 7,045 | 4,550 |
| Film/documentary | Permits | 3 | 5 | 6 | 3 |
| Communication sites | Permits | 126 | 141 | 135 | 122 |
| Other structures | Permits | 227 | 203 | 486 | 97 |
| Powerlines/cables/pipelines | Km's | 2,886 | 853 | 1,461 | 2,904 |
| Gravel/sand/rock | Tonnes | 69,495 | 99,448 | 103,275 | 80,213 |
| Research | Research Permits | 215 | 260 | 100 | 105 |
| Nursery seedlings to public | Number | 1,148,000 | 1,032,151 | 1,500,000 | 1,141,000 |
| Maps sold to public | Items | 5,491 | 5,152 | 19,945 | 19,143 |

* Includes 1,011 sites in South Coast Region that were not counted in the last financial year.

**Last year smelter vat stirring sticks were included as miscellaneous native plant pieces. While miscellaneous native plants are limited to whole native plants sold live, smelter vat stirring sticks are pieces of Acacia that have been cut specifically for this industry. Production of these sticks from year to year will depend on the smelting activity and product availability. This year it was felt that it was best to separate out the two products and as a consequence the figure for miscellaneous native plant pieces has been adjusted accordingly for the 1999-2000 reporting year.

Appendix 4. Representation of EEO Groups within levels as at 30 June 2001

| Group | 1999-00 | | | 2000-01 | | |
|--|--------------|------------|-----------|--------------|------------|-----------|
| | Total staff | Women | REERM* | Total staff | Women | REERM* |
| Below C.O.1.4 (<\$26,802 p.a.) | 27 | 20 | 0 | 17 | 11 | 2 |
| C.O.1. – <Gd 1 (\$26,802-35,202 p.a.) | 440 | 69 | 6 | 354 | 34 | 3 |
| A&C Gds 1-2 (\$35,203-39,354 p.a.) | 161 | 40 | 2 | 134 | 43 | 0 |
| A&C Gds 3-5 (\$39,355-49,799 p.a.) | 251 | 81 | 9 | 273 | 75 | 12 |
| A&C Gds 6-9 (\$49,800-\$64,400 p.a.) | 195 | 37 | 16 | 197 | 37 | 20 |
| A&C Gds 10-12 (\$64,401-\$80,499 p.a.) | 58 | 5 | 10 | 72 | 10 | 11 |
| Above A&C Gd 12 (>\$80,499 p.a.) | 86 | 1 | 2 | 83 | 2 | 3 |
| Total | 1,218 | 253 | 45 | 1,130 | 212 | 51 |

* Racial, Ethnic and Ethno/Religious minority groups

Appendix 5. Representation and recruitment of Aboriginal employees and employees with a disability as at 30 June 2001

| | 1999–00 | | | 2000–01 | | |
|-------------------------------|--|-------------------------|-------------|--|-------------------------|-------------|
| | Aboriginal and Torres Strait Islanders | Persons with disability | Total staff | Aboriginal and Torres Strait Islanders | Persons with disability | Total staff |
| Total employees | 26 | 74 | 1,218 | 30 | 73 | 1,130 |
| Entry level | 2 | 0 | 13 | 0 | 1 | 17 |
| Recruited year ending 30 June | 5 | 0 | 139 | 2 | 0 | 64 |

Appendix 6. Fauna survey records

| Target species | Number of areas surveyed | | | | Number of individual records | | | | Cumulative no. of areas surveyed since July 1997 | Cumulative no. of individual records since July 1997 |
|----------------------------|--------------------------|---------|---------|---------|------------------------------|---------|---------|---------|---|---|
| | 1997–98 | 1998–99 | 1999–00 | 2000–01 | 1997–98 | 1998–99 | 1999–00 | 2000–01 | | |
| <i>Arboreal mammals</i> | | | | | | | | | | |
| Squirrel Glider | 58 | 164 | 253 | 408 | 0 | 23 | 29 | 38 | 630 | 70 |
| Yellow-bellied Glider | 127 | 211 | 273 | 299 | 0 | 416 | 477 | 535 | 637 | 1,180 |
| Brush-tailed Phascogale | 39 | 161 | 268 | 352 | 0 | 1 | 14 | 11 | 552 | 12 |
| Koala | 129 | 167 | 258 | 294 | 50 | 164 | 280 | 93 | 590 | 397 |
| <i>Ground mammals</i> | | | | | | | | | | |
| Long-nosed Potoroo | 69 | 193 | 271 | 267 | 0 | 7 | 3 | 2 | 529 | 15 |
| Southern Brown Bandicoot | 17 | 35 | 41 | 46 | 0 | 0 | 0 | 10 | 98 | 10 |
| Parma Wallaby | 50 | 122 | 216 | 170 | 43 | 5 | 7 | 5 | 342 | 37 |
| Red-legged Pademelon | 50 | 115 | 204 | 170 | 94 | 4 | 0 | 1 | 335 | 10 |
| Rufous bettong | 50 | 133 | 216 | 170 | 0 | 35 | 4 | 28 | 353 | 71 |
| Brush-tailed Rock-wallaby | 57 | 117 | 256 | 131 | 8 | 0 | 0 | 6 | 305 | 14 |
| Long-footed Potoroo | 7 | 72 | 37 | 20 | 0 | 0 | 0 | 0 | 99 | 0 |
| Tiger Quoll | 93 | 181 | 276 | 289 | 0 | 14 | 36 | 32 | 839 | 98 |
| Broad-toothed Rat | 10 | 65 | 32 | 6 | 0 | 0 | 0 | 0 | 81 | 0 |
| White-footed Dunnart | 11 | 9 | 28 | 106 | 0 | 0 | 0 | 1 | 126 | 2 |
| Smoky Mouse | 17 | 67 | 37 | 15 | 0 | 0 | 0 | 5 | 99 | 5 |
| Hastings River Mouse | n/a | 34 | 30 | 33 | 50 | 1 | 14 | 10 | 67 | 11 |
| <i>Frogs</i> | | | | | | | | | | |
| Giant Burrowing Frog | 13 | 37 | 50 | 242 | 1 | 3 | 9 | 11 | 292 | 15 |
| Heath Frog | n/a | n/a | n/a | 37 | n/a | n/a | n/a | 7 | 0 | 0 |
| Glandular Frog | n/a | n/a | n/a | 12 | n/a | n/a | n/a | 7 | 0 | 0 |
| Stuttering Frog | 67 | 105 | 83 | 230 | 0 | 132 | 60 | 83 | 402 | 236 |
| Green-thighed Frog | 7 | 62 | 55 | 146 | 50 | 9 | 4 | 23 | 215 | 32 |
| Giant Barred Frog | 26 | 87 | 175 | 212 | 8 | 49 | 10 | 39 | 325 | 88 |
| Red-crowned Toadlet | 3 | 38 | 14 | 16 | 94 | 118 | 30 | 2 | 57 | 121 |
| Corroboree Frog | 2 | 21 | 20 | 21 | 8 | 185 | 240 | 350 | 44 | 551 |
| Pouched Frog | 17 | 0 | 0 | 29 | 43 | 0 | 0 | 0 | 46 | 20 |
| Green and Golden Bell Frog | 2 | 60 | 82 | 50 | 0 | 0 | 0 | 0 | 112 | 0 |
| Sphagnum Frog | n/a | 31 | 60 | 135 | 0 | 11 | 6 | 51 | 166 | 62 |

Appendix 6. cont.

| Target species | Number of areas surveyed | | | | Number of individual records | | | | Cumulative no. of areas surveyed since July 1997 | Cumulative no. of individual records since July 1997 |
|-------------------------------|--------------------------|---------|---------|---------|------------------------------|---------|---------|---------|---|---|
| | 1997–98 | 1998–99 | 1999–00 | 2000–01 | 1997–98 | 1998–99 | 1999–00 | 2000–01 | | |
| <i>Bats</i> | | | | | | | | | | |
| Eastern False Pipistrelle | 29 | 114 | 238 | 301 | 8 | 12 | 11 | 12 | 444 | 42 |
| Golden-tipped Bat | 73 | 136 | 228 | 285 | 16 | 39 | 42 | 45 | 494 | 134 |
| Large-footed Myotis | 94 | 136 | 228 | 285 | 12 | 28 | 21 | 16 | 515 | 56 |
| Greater Broad-nosed Bat | 44 | 113 | 238 | 205 | 16 | 10 | 5 | 8 | 362 | 22 |
| Little Bent-winged Bat | 44 | 112 | 211 | 256 | 17 | 64 | 167 | 25 | 412 | 106 |
| Common Bent-winged Bat | 27 | 113 | 228 | 285 | 8 | 82 | 156 | 44 | 425 | 170 |
| Eastern Cave Bat | 16 | 75 | 210 | 301 | 8 | 0 | 20 | 2 | 392 | 2 |
| Eastern Mastiff Bat | 16 | 80 | 73 | 301 | 8 | 0 | 0 | 0 | 397 | 0 |
| Yellow-bellied Sheathtail Bat | 16 | 114 | 210 | 301 | 0 | 1 | 0 | 1 | 431 | 2 |
| <i>Raptors</i> | | | | | | | | | | |
| Powerful Owl | 155 | 185 | 272 | 256 | 43 | 91 | 84 | 96 | 596 | 272 |
| Masked Owl | 123 | 182 | 265 | 256 | 43 | 49 | 34 | 50 | 561 | 142 |
| Sooty Owl | 126 | 177 | 265 | 241 | 0 | 109 | 95 | 78 | 544 | 239 |
| Barking Owl | n/a | 19 | 225 | 206 | n/a | 1 | 2 | 13 | 225 | 14 |
| Square-tailed Kite | 55 | 174 | 260 | 233 | 0 | 4 | 7 | 51 | 462 | 56 |
| Red Goshawk | 12 | 160 | 229 | 197 | 0 | 0 | 0 | 17 | 369 | 17 |
| <i>Non raptor birds</i> | | | | | | | | | | |
| Albert's Lyrebird | n/a | n/a | n/a | 6 | n/a | n/a | n/a | 3 | 6 | 3 |
| Marbled Frogmount | n/a | n/a | n/a | 45 | n/a | n/a | n/a | 72 | 45 | 72 |
| Glossy Black-cockatoo | 65 | 167 | 263 | 265 | 16 | 399 | 642 | 227 | 497 | 720 |
| Regent Honeyeater | 48 | 116 | 98 | 167 | 0 | 0 | 0 | 0 | 331 | 0 |
| Turquoise Parrot | 47 | 68 | 222 | 70 | 0 | 0 | 0 | 0 | 185 | 0 |
| Bush-stone Curlew | 39 | 57 | 214 | 36 | 8 | 2 | 1 | 0 | 132 | 2 |
| Pink Robin | 3 | 55 | 49 | 42 | 43 | 0 | 0 | 1 | 100 | 2 |
| Olive Whistler | 13 | 71 | 219 | 56 | 43 | 5 | 12 | 28 | 140 | 41 |
| Wampoo Fruit Dove | 17 | 54 | 13 | 118 | 0 | 5 | 4 | 10 | 189 | 57 |
| Swift Parrot | 14 | 117 | 235 | 175 | 0 | 0 | 0 | 0 | 306 | 0 |
| Rufous Scrub-bird | 2 | 20 | 18 | 114 | 0 | 6 | 0 | 3 | 136 | 9 |
| Superb Parrot | n/a | 70 | 16 | 37 | 0 | 160 | 330 | 210 | 107 | 370 |
| Regent Parrot | n/a | 59 | 10 | 41 | 0 | 200 | 250 | 120 | 100 | 320 |
| <i>Reptiles</i> | | | | | | | | | | |
| Broad-headed Snake | n/a | n/a | n/a | 70 | n/a | n/a | n/a | 0 | 70 | 0 |
| Heath Monitor | n/a | n/a | n/a | 40 | n/a | n/a | n/a | 4 | 40 | 4 |
| Pale Headed Snake | n/a | n/a | n/a | 70 | n/a | n/a | n/a | 0 | 70 | 0 |
| Stephens Banded Snake | n/a | n/a | n/a | 150 | n/a | n/a | n/a | 4 | 150 | 4 |

Appendix 7. Summary of regulatory compliance during harvesting in 2000–01

| Compliance items | 1999–00 | 2000–01 |
|---|--------------|--------------|
| <i>Number of compliance check sheets conducted</i> | | |
| 1st tier supervision checks | 5,428 | 3,122 |
| 2nd tier supervision checks | 420 | 302 |
| Total | 5,848 | 3,424 |
| <i>Number of non-compliance incidents recorded by State Forests supervision</i> | | |
| NCI's related to soil erosion & water quality | 1,255 | 860 |
| NCI's related to flora and fauna | 469 | 399 |
| NCI's related to fish habitat & passage | 1 | 7 |
| other NCI issues (eg safety) | 314 | 272 |
| Total | 2,039 | 1,538 |
| <i>Number of fines issued to State Forests</i> | | |
| Fines to NPWS | 0 | 0 |
| Fines to EPA | 3 | 5 |
| Fines NSW Fisheries | 0 | 0 |
| Total | 3 | 5 |
| <i>Number of prosecutions conducted against State Forests</i> | | |
| Prosecutions by NPWS | 1* | 0 |
| Prosecutions by EPA | 0 | 0 |
| Prosecutions by NSW Fisheries | 0 | 0 |
| Total | 0 | 0 |

* Currently before the Court

Appendix 8. Energy efficiency

| Energy use | 1998–99 | | | 1999–00 | | | 2000–01 | | |
|-------------------------------|----------------|---------------------------|----------------------------|----------------|---------------------------|----------------------------|----------------|---------------------------|----------------------------|
| | Total energy | CO ₂ emissions | % of total CO ₂ | Total energy | CO ₂ emissions | % of total CO ₂ | Total energy | CO ₂ emissions | % of total CO ₂ |
| | GJ | Tonnes | % | GJ | Tonnes | % | GJ | Tonnes | % |
| Electricity (kWh) | 14,400 | 3,825 | 37% | 13,331 | 3,541 | 35% | 13,039 | 3,463 | 35% |
| Green power (kWh) | 1,188 | 0 | 0% | 1,933 | 0 | 0% | 1,860 | 0 | 0% |
| Natural gas (MJ) | 466 | 24 | 0% | 590 | 30 | 0% | 291 | 15 | 0% |
| LPG (kg) | 1,446 | 86 | 1% | 2,491 | 148 | 1% | 2,069 | 123 | 1% |
| Petrol (L) | 25,240 | 1,666 | 16% | 25,411 | 1,677 | 17% | 22,246 | 1,468 | 15% |
| Auto distillate (diesel) (L) | 66,940 | 4,666 | 45% | 65,350 | 4,555 | 45% | 67,270 | 4,689 | 47% |
| Kerosene (L) | 0 | 0 | 0% | 0 | 0 | 0% | 315 | 22 | 0% |
| Aviation gasoline (L) | 474 | 32 | 0% | 544 | 37 | 0% | 1,566 | 107 | 1% |
| Aviation turbine fuel (L) | 1,738 | 121 | 1% | 1,124 | 78 | 1% | 2,084 | 145 | 1% |
| Total | 111,893 | 10,419 | 100% | 110,774 | 10,066 | 99% | 11,0740 | 10,032 | 100% |

Appendix 9. Fleet size

| Fleet | | Corporate Figures |
|------------------------|--|-------------------|
| Light vehicles | Number diesel vehicles | 573 |
| | Number petrol vehicles | 239 |
| | Total number vehicles | 812 |
| Trucks and light plant | Number diesel fleet trucks and light plant | 139 |
| | Number petrol fleet trucks and light plant | 11 |
| | Total number fleet trucks and light plant | 150 |
| Heavy plant | Number diesel fleet heavy plant | 86 |
| | Number petrol fleet heavy plant | 0 |
| | Total number fleet heavy plant | 86 |

Appendix 10. Volume of logs harvested

| | 1995–96 | 1996–97 | 1997–98 | 1998–99 | 1999–2000 | 2000–01 |
|---------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <i>Sawlogs and veneer logs (m³)</i> | | | | | | |
| Native forest hardwood sawlogs | 980,149 | 844,349 | 744,583 | 662,336 | 786,774 | 664,183 |
| Hardwood plantation sawlogs | | | | 34,445 | 55,466 | 33,601 |
| Cypress pine sawlogs | 95,105 | 98,278 | 99,127 | 100,879 | 101,881 | 96,430 |
| Plantation softwood sawlogs | 978,621 | 1,050,554 | 1,337,540 | 1,351,798 | 1,648,790 | 1,306,614 |
| Plantation softwood veneer logs | 40,413 | 53,092 | 60,412 | 74,765 | 70,919 | 51,784 |
| Native forest hardwood veneer logs | 17,513 | 17,121 | 16,882 | 12,074 | 10,600 | 12,890 |
| Hardwood plantation veneer logs | | | | 4,068 | 2,819 | 1,173 |
| Total sawlogs and veneer logs | 2,111,801 | 2,063,394 | 2,258,544 | 2,240,365 | 2,677,249 | 2,166,675 |
| <i>Poles, piles and girders (m³)</i> | | | | | | |
| Native forest hardwood | 49,752 | 27,226 | 26,448 | 15,804 | 28,432 | 34,039 |
| Plantation hardwood | | | | 3,290 | 5,479 | 4,175 |
| Total poles, piles and girders | 49,752 | 27,226 | 26,448 | 19,094 | 33,911 | 38,214 |
| <i>Round timber (m³)</i> | | | | | | |
| Preservation plantation softwood | 49,752 | 47,240 | 63,274 | 71,314 | 56,422 | 57,780 |
| Preservation native forest hardwood | | | | 2,201 | 11,169 | 2,633 |
| Mining timber hardwood | | | 6,955 | 3,794 | 1,834 | 1,805 |
| Total round timber | 56,707 | 51,034 | 65,108 | 75,320 | 67,591 | 60,413 |
| <i>Pulpwood (tonnes)</i> | | | | | | |
| Native forest hardwood pulpwood | 768,191 | 605,254 | 614,623 | 472,970 | 503,546 | 533,113 |
| Plantation hardwood pulpwood | | | | 81,751 | 82,660 | 66,498 |
| Plantation softwood pulpwood | 500,427 | 502,258 | 541,824 | 573,907 | 636,058 | 728,652 |
| Total pulpwood | 1,268,618 | 1,107,512 | 1,156,447 | 1,128,628 | 1,222,264 | 1,328,263 |
| <i>Other</i> | | | | | | |
| Fencing/landscape/sleepers (m³) | 81,676 | 10,379 | 6,218 | 8,485 | 7,575 | 7,444 |
| Total other | 81,676 | 10,379 | 6,218 | 8,485 | 7,575 | 7,444 |

State Forests would like to hear your feedback on the *Seeing* report.

Fax this form to: (02) 9980 7042

OR post it to:
The Sustainability Group
State Forests of NSW
Locked Bag 23
Pennant Hills NSW 2120
Australia

1. I am interested in State Forests' performance as an:

- ☐ employee
 - ☐ customer
 - ☐ neighbour
 - ☐ regulatory body
 - ☐ environmental group
 - ☐ member of the forest products industry
 - ☐ recreational user of State forests
 - ☐ community group
 - ☐ educational institution
 - ☐ student
 - ☐ other, please specify
-

2. Which sections did you find most useful?

- ☐ Introductions
- ☐ Forest Value 1: Community Benefits
- ☐ Forest Value 2: Staff
- ☐ Forest Value 3: Cultural Heritage
- ☐ Forest Value 4: Biodiversity
- ☐ Forest Value 5: Forest Health
- ☐ Forest Value 6: Soil and Water Quality
- ☐ Forest Value 7: Compliance
- ☐ Forest Value 8: Forests as Carbon Sinks
- ☐ Forest Value 9: Productivity
- ☐ Forest Value 10: Marketing and Sales
- ☐ Verification Statement

3. How frequently should State Forests produce the *Seeing* report?

- ☐ once every year
 - ☐ every two years
 - ☐ every five years
 - ☐ other, please specify
-

4. How did State Forests perform in the following areas?

- a. Openness and honesty*
- ☐ very good
 - ☐ good
 - ☐ fair
 - ☐ poor
 - ☐ very poor

b. Completeness of issues covered

- ☐ very good
- ☐ good
- ☐ fair
- ☐ poor
- ☐ very poor

c. Amount of information provided

- ☐ too much
- ☐ enough
- ☐ too little

d. Ease of reading

- ☐ easy to read
- ☐ fair
- ☐ difficult to read

e. Layout and design

- ☐ very good
- ☐ good
- ☐ fair
- ☐ poor
- ☐ very poor

f. Overall rating

- ☐ very good
- ☐ good
- ☐ fair
- ☐ poor
- ☐ very poor

5. Did you find this report to be:

- ☐ open and transparent
- ☐ credible but incomplete
- ☐ deceptive and misleading

6. In your opinion how can State Forests improve this report?

7. How can State Forests improve its social, environmental and/or economic performance?

Acknowledgment

This report is produced by the Sustainability Group within Forest Policy and Resources Division. However, the report represents a combined effort across all State Forests' regions and divisions in terms of data collection and advice during report preparation.

Thank you to all staff who contributed to this report.