

## Executive summary

**Purpose of report** This is Australia's second State of the Forests Report. It fulfils Australia's five yearly public reporting commitment identified in the 1992 National Forest Policy Statement, and also serves as Australia's report to the international Montreal Process on criteria and indicators of sustainable forest management.

Australia's framework of criteria and indicators, based on the Montreal Process, are used as a basis for reporting. Seven broad criteria and 74 indicators were developed during regional consultations with forest management and conservation agencies and other stakeholders around the country. Using consistent indicators also enables comparisons between countries in forest status and management.

An important nationwide change since the 1998 State of the Forests Report has been the development and implementation of Regional Forest Agreements (RFAs). This is the first national report since the RFA process and changes brought about by the process are detailed wherever data are available.

Data are presented without value-based interpretations. This allows readers to make up their own minds about whether a trend in a particular indicator is a good or bad thing.

The report provides a benchmark for future assessments. There are many areas where data are incomplete, of uncertain accuracy or entirely lacking. Awareness of these gaps in our knowledge will hopefully increase efforts to improve data collection.

**Forest Extent** This assessment indicates that 164 million hectares, or 21 per cent of Australia's land area, is classified as forest (land with trees with an actual or potential height greater than 2 metres and 20 per cent crown cover). Of this total, 102.5 million hectares is woodland forest, 45.6 million hectares is open forest, 4.6 million hectares is closed forest (mainly rainforest) and 1.6 million hectares are plantation forests. Thirteen per cent of Australia's native forests are formally protected in nature conservation reserves, 70 per cent are privately managed, and 7 per cent are available for timber production in multiple-use forests.

The area is about 7 million hectares greater than that reported in 1998. This increase does not reflect a real increase in forest cover; improvements in forest mapping have yielded greater accuracy in the estimated area of forest. Other data indicates that net forest cover in Australia is decreasing, due largely to clearing of woodland forests for grazing and cropping. The annual rate of clearing is now much lower than in the 1970s and 80s. In the most recent estimates 240 000 hectares were cleared in 1998 compared with 546 000 hectares in 1988.

Commercial forest plantation establishment has averaged 87 000 hectares per year over the last five years. Nearly all of this occurred on land that was previously used for agriculture. In 2002 softwood plantations covered 988 000 hectares. The rate of expansion of new softwood plantations is low and the potential supply of softwood plantation timber will increase modestly over the next 20 years. There were 638 000 hectares of hardwood plantations in 2002. The majority of that area was established in recent years, much of it on former agricultural land.

An unknown area of new forest has also been established through revegetation activities including Landcare, Bushcare and other government sponsored programs.

Growth stage is known for only 14 million hectares, or 8 per cent, of Australia's forest, mainly on multiple-use tenure. At the national level there are 4 growth stages. Of the 14 million hectares, 6.6 per cent is in the regeneration stage, 11.8 per cent is regrowth, 57.4 per cent is mature and 24.2 per cent is classed as senescent.

Old growth forests are of particular interest to many in the community. They are defined as 'ecologically mature forest where the effects of disturbances are now negligible'. In forests assessed for the development of Regional Forest Agreements, more than 5 million hectares, or 22 per cent, are classified as old-growth. There has been little assessment in forests outside these regions.

<b>Forest Tenure and Management</b>	Forty-six percent of Australia's forest is under leasehold tenure. Seven per cent is on private tenure and 7 per cent is multiple-use (where timber harvesting is undertaken on public land). Since the last assessment, the area in nature conservation reserves (both formal and informal) has increased by 22.2 per cent to 21.5 million hectares, and the area of multiple-use forests has decreased by 14.6 per cent. Thirteen per cent of Australia's forest estate is now protected in nature conservation reserves, including almost 70 per cent of old growth forests in RFA regions. Fifteen per cent of Australia's native forests meet the international IUCN reserve classes. Fifteen of Australia's seventeen major native forest types exceed the international target of 10 per cent of the area of the forest type to be in IUCN categories I-VI.
<b>Biodiversity</b>	Sixteen thousand, five hundred and thirty-two higher plants and 3 817 animal species are considered forest-dependent species (defined as needing forest habitat for part of the life cycle.) This is an increase of 21.4 per cent and 211 per cent for plants and animals respectively since the last assessment, due to more comprehensive research, assessment and reporting by State and Territory agencies. Eighty-eight animal and 771 higher plant taxa are considered critically endangered, endangered or vulnerable under the Australian Government <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
<b>Forest Products</b>	Twenty-six per cent of native forest is legally restricted from timber harvesting. The remaining 74 per cent is available for timber harvesting, but this does not occur on a large proportion of this area because of environmental and economic restrictions. The report identifies that an annual average of 9.1 million cubic metres of timber were removed from public and private native forests for the 5 years to 2000–2001. The annual removal of wood from public native forests is estimated to be well within the sustainable level. Volumes of sawlogs and veneer logs harvested from native forests in all States except Tasmania have declined; pulpwood harvests have also declined in all jurisdictions except Tasmania and Victoria. National statistics reveal 12.2 million cubic metres of timber were removed from hardwood and softwood plantations during the same period.

No national data are kept on non-timber forest products that come solely from forested areas. It is known, however, that forests are important in the supply of honey, indigenous art products, seed, decorative foliage and some animals and animal products.

### Forest Health

There is no comprehensive national database for forest fire occurrence, cost or impact. Between April 1998 and March 1999, remote sensing indicated that 14.3 million ha (9 per cent) of Australia's forests were burnt by fire. The following year, fire burnt 27.2 million hectares. These figures include fuel reduction burns as well as wild fires. Detailed statistics on area burnt, fire severity and recovery potential are not yet available for the extensive bush fires in Victoria, New South Wales and the Australian Capital Territory of December 2002 and January 2003.

Other threats to forest health—such as animal pests, weeds and pathogens—are monitored and, in some cases, controlled. However, there is little information available nationally on the extent and percentage of the national forest estate affected. *Phytophthora* fungi continue to be a major concern in many forested areas in temperate Australia, and management plans exist in most regions. Other fungi are a threat to some plantation species.

Several other factors can affect Australian forest health, such as grazing, mining or climatic extremes. There are few data on the amount of forest affected by soil hazards, or even the area assessed for hazards. Many forests are managed with the clear understanding that the existence of the forest protects other important biophysical attributes beyond that of the trees themselves. Benefits include flood mitigation, the prevention of landslides and soil erosion and the preservation of riparian zones. Forests protect watersheds, and it is well known that clearing deep-rooted native tree species is a cause of salinisation. However, forest protective functions are rarely mapped or quantified.

The strong inter-relationship between forest vegetation, soil, and water is increasingly understood. Soil type and availability of water determine, to a large extent, the type of forest that may occur. In turn the existence of the forest helps to protect the existing soil and water properties. Forests are vital in helping to provide good quality water for many highly populated parts of Australia. Comprehensive national data are still lacking, although some soil and water monitoring take place in several jurisdictions.

Forests are important carbon stores. Growing forests removes carbon from the atmosphere and harvesting or other disturbances results in release of carbon. Forests contain an estimated 23.4 million tonnes of biomass (10.5 million tonnes of carbon, excluding soil carbon). The vast majority of biomass is in native forests, with only about 0.8 per cent in plantations.

There is still considerable uncertainty about the uptake and release of carbon across the broader forest estate. 'Net greenhouse gas emissions (mainly carbon dioxide) from the 'land-use change and the forestry sector' were 7 per cent of national greenhouse gas emissions in 2001. Emissions from this sector have declined over the last ten years, in line with reductions in forest clearing.

**Economic factors** In 2000–2001, the National Accounts valued the timber in plantations and native forests at \$10.6 billion. Over the nine years to 2001–2002, the value of wood and wood products to the Australian economy increased from \$5.9 billion to \$6.6 billion (1 to 1.3 per cent of GDP).

Australia is a net importer of pulp and paper products. However, production and export of wood-based panels and woodchips has increased since the last report. Domestic supply of wood and wood products has also increased. Per capita consumption, however, has fallen due to population growth and some substitution away from timber products in the housing sector.

Non-wood forest products are also important, but data are scarce. The apiary industry is highly dependent on native forests. There are nearly 1 000 full-time apiarists in Australia, and many part-time ones, servicing domestic and overseas markets. Honey production in 2000 was estimated to be worth \$36 million dollars nationally, with sales of bees and beeswax contributing a further three to four million dollars.

**Investment and Employment**

Since the early 1990s the forest sector, and in particular the plantation sector, has attracted new domestic and foreign investment to the value of more than \$6.5 billion. New forest and wood-processing investments have occurred in each State and Territory.

Forest-related research and development expenditure in Australia has steadily increased over the last decade and in 2000–2001 totalled \$216 million.

The forest sector remains a relatively small employer nationwide, but for many regional communities it is the major source of income. From 1993 to 2000, direct employment in the forest sector declined from 0.98 per cent to 0.81 per cent of the workforce, rising to 0.86 per cent in 2000–2001. However, the forest sector generates considerable employment in related fields of the economy, with the multiplier effect ranging from 1.57 in South Australia to 2.35 in Victoria.

Employment and spending on wages in the forestry sector increased in the three years to 2001. Unfortunately, much forestry work continues to be dangerous. The average injury rate for the forest, wood-milling and manufacturing sectors is somewhat higher than the national average, and the fatality rate is considerably higher.

Tourism, an increasingly important sector in the nation's economy, often makes use of forests. Most publicly owned forested lands are available for recreation or tourism. Available data are far from comprehensive but suggest that visitor numbers are increasing in most jurisdictions.

Over the past few decades, the Australian government has introduced tax changes to address what was an inequitable treatment of forestry operations. Taxation law does not discriminate against investment in forestry. Funding has been provided to assist restructuring of timber industries affected by government forest-use decisions.

Australia's export industries operate in a trade environment where they continue to face barriers to market entry. Australia supports a policy that will lead to the removal of tariffs in wood and wood products and is pursuing WTO-consistent Free Trade Agreements. For countries not party to multilateral or bilateral treaties, Australia's tariffs on imports of forest and forest products range from 0 to 5 per cent. However, Australia grants preferential tariff treatment for developing country products.

#### **Indigenous Issues**

More than 18 per cent of Australia's total land and about 13 per cent of forested land is under Indigenous ownership, mostly in the Northern Territory, South Australia and Western Australia. While there is no comprehensive national database of Indigenous land holdings, the Indigenous Land Corporation in Adelaide is compiling a national register. Native title applications to date have resulted in about 900 000 hectares of forested areas being available and accessible to Indigenous people.

There are 62 national heritage areas, totalling more than 10 million hectares, formally recognised as possessing both Indigenous values and forest values, that warrant protection.

In an important development since the last report, the *Regional Forest Agreement Act 2002* specifies that agreements between the States and the Australian Government about the management of forests must include the protection of Indigenous heritage values. Traditional management practices are increasingly recognised in forests with a strong link to the traditional owners.