

Regional Forest Agreements and beyond

A new era in forest management

A new era has begun in forest management with nine Regional Forest Agreements (RFAs) in place in four States of Australia.

After more than four years of scientific analysis, consultation, negotiation and policy implementation, the first phase of the RFA process is complete.

The signing of an RFA marks not the end but the beginning of a process of continuous improvement in forest use and management. We have defined our tasks in forest management, as a nation and by State, and have drawn up guidelines and assigned responsibilities.

Governments are now embarking on the challenge of implementing and monitoring RFAs, of meeting the vast raft of commitments contained in each agreement and of ensuring that the agreements work to benefit the economy and our environment.

In this edition

Regional Forest Agreements and beyond	1
The CAR reserve system	3
Assessments clarify RFA flora and fauna pictures	4
Ensuring old-growth forests for the future	6
Cultural heritage—a forest's many meanings	7
Ecologically Sustainable Forest Management	8
The human face of the RFA process	10
RFAs bolster timber industries' confidence	12
Nature-based tourism on the rise in RFA regions	14
Mineral resource data made more credible	15
Victoria RFA highlights	16
NSW RFA highlights	17
Tasmania RFA highlights	18
WA RFA highlights	19
Queensland CRA highlights	19
RFA process slips into second gear	20
Reports and reviews timetable	20



Regional Forest Agreements

Richard Webb worked on Regional Forest Agreements for the Department of the Prime Minister and Cabinet's Forests Taskforce from 1995 to 2000. He reflects on what RFAs have achieved.

Few involved in the RFA process, government or stakeholder organisations, ever believed that the RFA process would end forest conflict in Australia. There will always be groups at the extreme ends of the debate whose values differ so fundamentally that no middle ground will satisfy. Knowing this, the challenge for Commonwealth officers was to implement this crucial element of the National Forest Policy Statement and find a reasonable balance, based on sound science and public participation, between the conservation of our native forest estate and its sustainable use for economic production and recreation.

The process has not been easy. It has often been frustrating and there have been disappointments. Changes in governments or protracted discussions between Commonwealth and State agencies over methodology or data sometimes resulted in delays and changes in timelines.

But on balance, the RFA process has been an outstanding success. It is worth reflecting on what has been achieved.

Increasing the knowledge base

First, the \$115 million comprehensive regional assessment process has added volumes to our knowledge of forest uses and values—from their complex ecosystems to their mineral deposits, their heritage values and their importance to tourism and recreation. Each RFA involved at least 50 assessment projects in disciplines ranging from biology and zoology to economics and sociology.

The CAR reserves

In environmental terms, we have achieved the ambitious objective of establishing a comprehensive, adequate and representative (CAR) reserve system. The RFA process added a total of about 2.5 million hectares to our already extensive reserve systems—boosting the total area in conservation reserves by around 39 per cent. This brings the percentage of public land within reserves to more than 60 per cent.

Wherever possible on public land, we have met the targets for the protection of biodiversity and old-growth forest outlined in the nationally agreed criteria for the CAR reserve system. Indeed the criteria are, in themselves, a major achievement of the RFA process.

We have agreed on the first national definition of old-growth forest and have made enormous strides in identifying and protecting old-growth values.

Certainty for industry

Through RFAs, the Commonwealth has delivered the promised 20 years' certainty of access to forest resources for the timber industry. In most regions, the industry is faced with a staged but sometimes substantial reduction in resource supply. However the resource certainty combined with assistance under the Forest Industry Structural Adjustment Package and other RFA funding is expected to encourage greater investment in value-adding projects, increase regional employment and result in no net job losses in RFA regions.

People and communities

The social assessment process for the RFAs was another major development in land management policy. It has attracted international interest and one of its many legacies is the establishment of a social sciences centre in the Bureau of Rural

Sciences within the Commonwealth Department of Agriculture, Fisheries and Forestry (AFFA).

We know far more now than we did about how regional and rural communities use and value native forests. Data is available to all policy makers and planners on their attitudes to forests and forest management, on the flow-on effects of forest industries on regional communities, on the demographic make-up of forest user groups, and on the community aspirations of people and organisations in around 80 case study townships.

Sustainable forest management

Perhaps most importantly, because it encompasses all these uses and values, the RFAs have paved the way for huge advances in our approach to sustainable forest management. At a time when the international community is focusing on the issue through the Montreal Process, Australia embarked on the task of looking hard and objectively at what we do and how we are doing it. As Dr John Raison from the CSIRO points out in an interview in this newsletter, the RFA process came at a good time in terms of contributing to our input to global sustainable development.

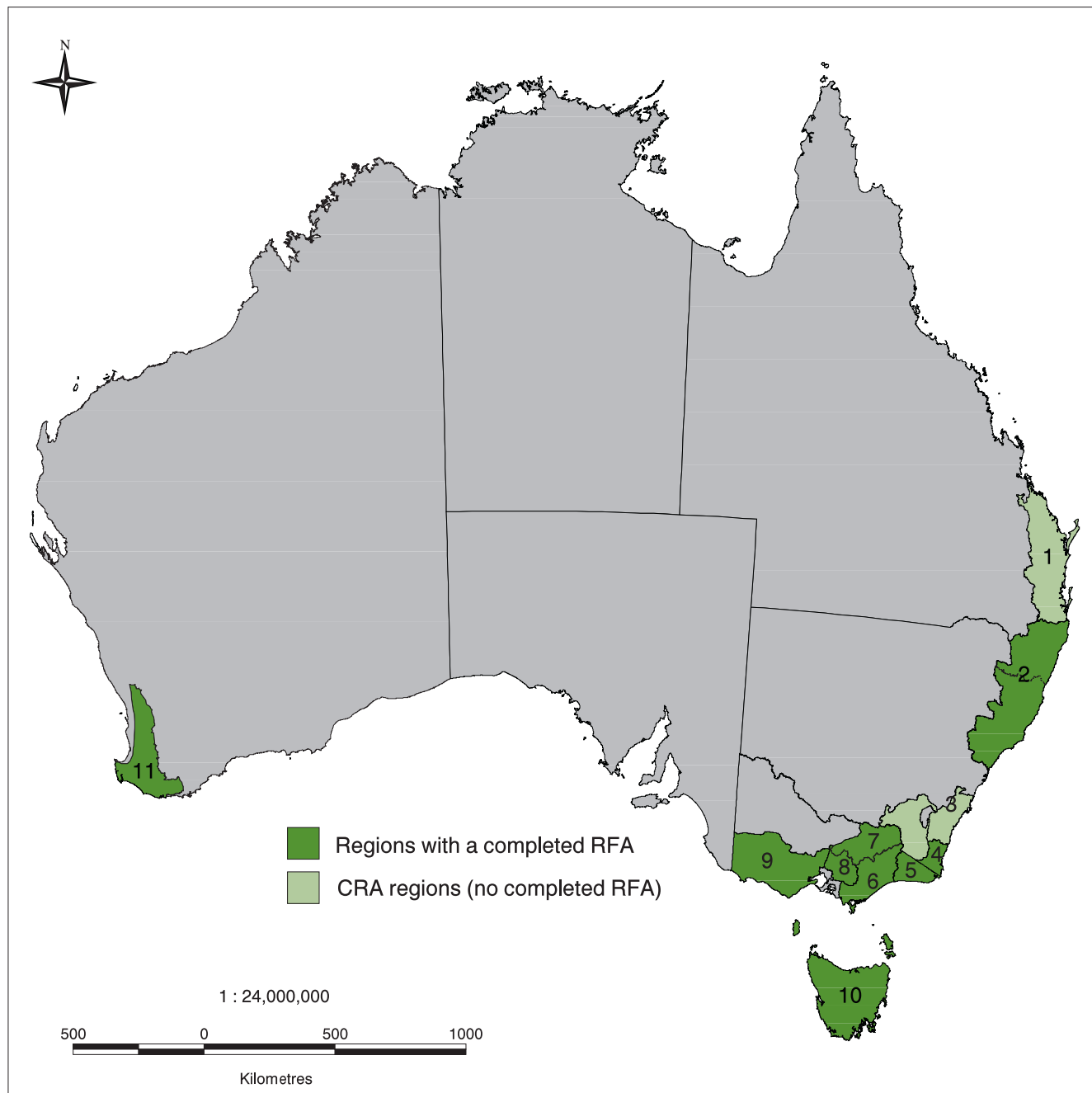
The way ahead

Only two of the original 11 agreements outlined in the scoping agreements between the Commonwealth and States—for South East Queensland and for Southern NSW—were not completed by 31 March 2000. However, the groundwork has been laid for both of them, with comprehensive regional assessments completed and the full range of stakeholder and community groups having been involved in this process. The Commonwealth is hopeful that RFAs for both regions will be agreed with the Queensland and NSW governments.

The first of the five-yearly reviews will be conducted in 2002 for the East Gippsland RFA. It is to be hoped that the reviews will confirm that the agreements are indeed delivering certainty and sustainability in Australia's native forests.



RFA and CRA regions



LEGEND

RFA region and date signed

QUEENSLAND

1. South East CRA region (RFA not signed)

NEW SOUTH WALES

2. North East (Upper and Lower)
31 March 2000
3. Southern RFA region (RFA not signed)
4. Eden—26 August 1999

VICTORIA

5. East Gippsland—3 February 1997
6. Gippsland—31 March 2000
7. North East—23 August 1999
8. Central Highlands—27 March 1998
9. West—31 March 2000

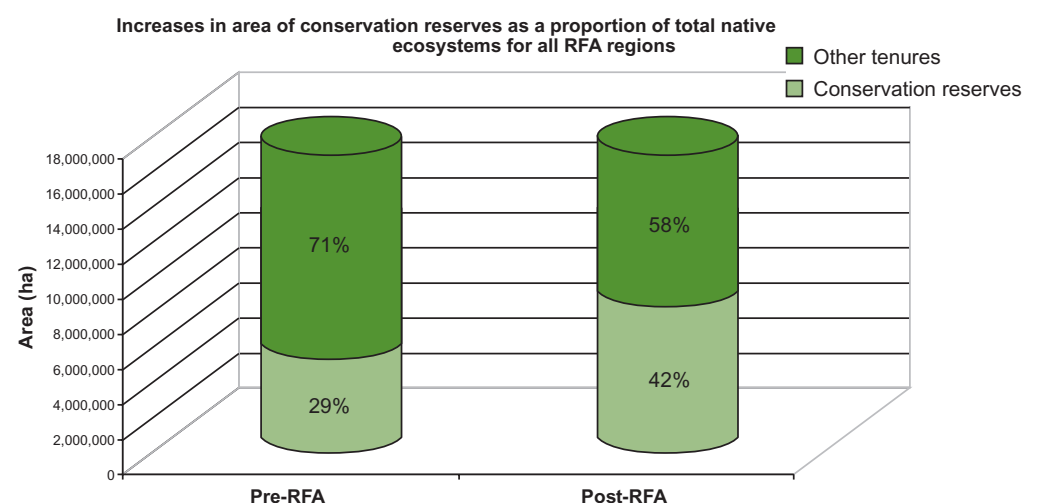
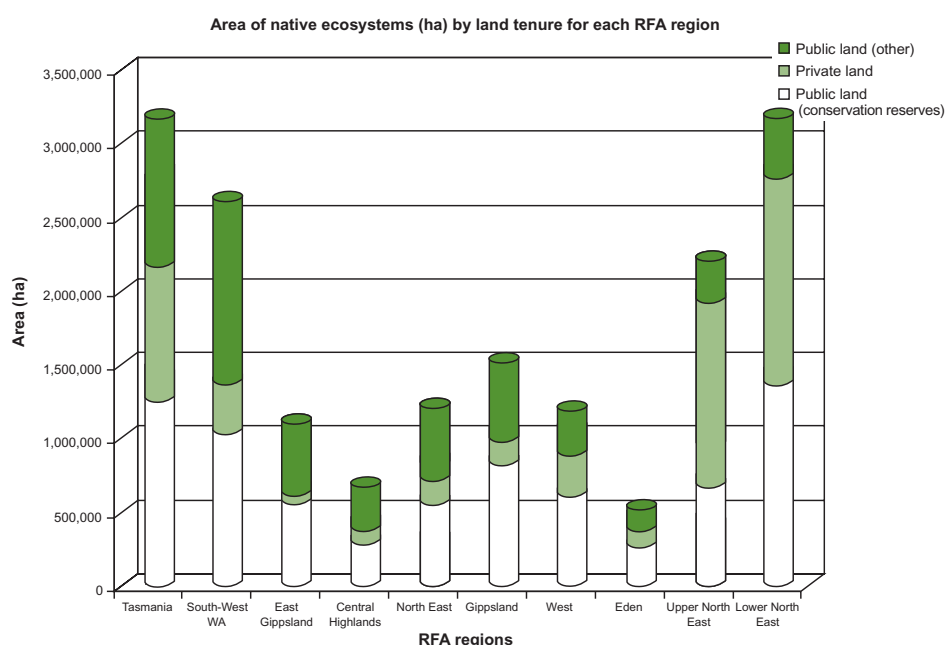
TASMANIA

10. Tasmania—8 November 1997

WESTERN AUSTRALIA

11. South West—4 May 1999

The RFAs cover most of the major production areas of native forest in Australia.



The statistics used in *RFA Forest News* are the latest available at the time of publication.

The CAR reserve system

Area matters, but it is only one of a range of issues when it comes to designing forest conservation reserves.

While many national and international conservation targets focus on increasing the proportion of forest in reserves, simply moving lines on maps by no means guarantees a positive outcome.

In the National Forest Policy Statement, the Commonwealth, State and Territory governments agreed that a national CAR reserve system must safeguard biodiversity, old growth, wilderness and other natural and cultural values of the forests.

Forests outside reserves would be available for wood production and other uses, subject to codes of practice that would ensure long-term sustainability and would contribute to the conservation of these natural and cultural values.

The governments defined CAR as:

Comprehensive: includes the full range of forest communities recognised by an agreed national scientific classification at appropriate hierarchical levels.

Adequate: the maintenance of the ecological viability and integrity of populations, species and communities.

Representative: those sample areas of the forest that are selected for inclusion in reserves should reasonably reflect the biotic diversity of the communities.

In 1997 they agreed on the first national criteria for a reserves system that protects:

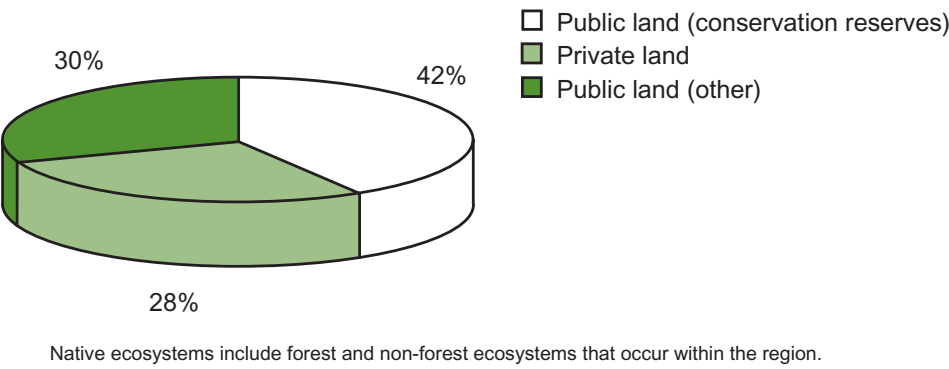
- 15 per cent of the distribution of each forest ecosystem that existed prior to Europeans arriving in Australia;
- 60 per cent or more of the current distribution of forest ecosystems, if rare or depleted;
- 60 per cent or more of the current distribution of old growth;
- all remaining occurrences of forest ecosystems or old growth that are rare or endangered; and
- 90 per cent or more of high-quality wilderness.

Importantly, governments also agreed that these criteria should be applied flexibly to ensure acceptable environmental, social and economic outcomes.

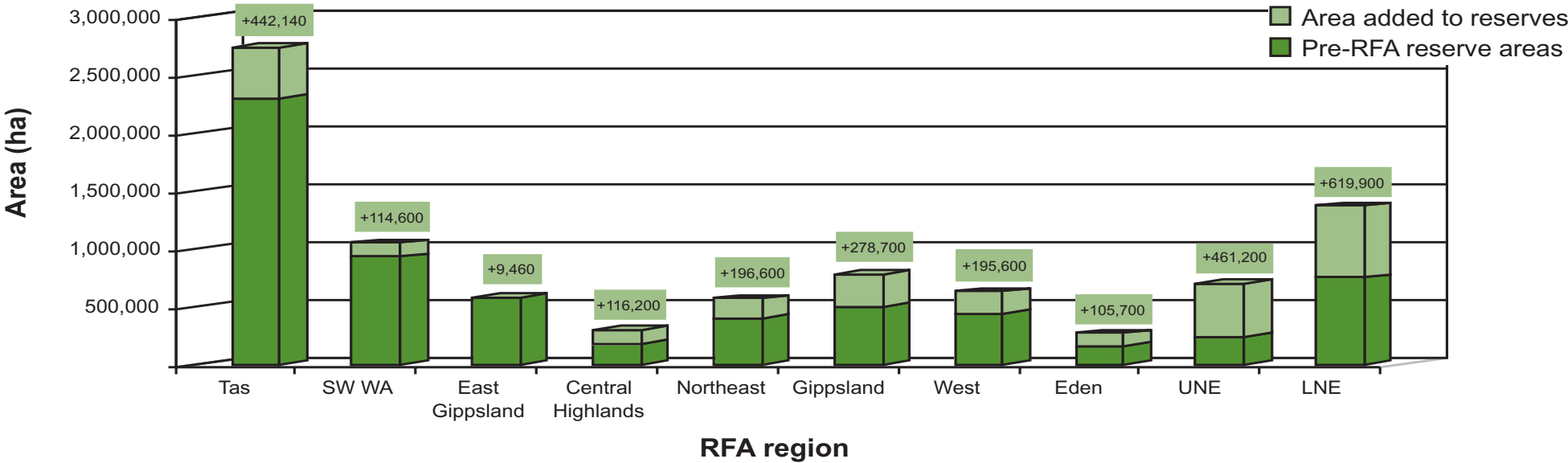
National RFA reserve outcomes

Total area of reserves	8.99 million ha
Area added to reserves by RFAs	2.51 million ha
Percentage increase in reserved public land	39 per cent
Total area of old-growth forest (public and private lands)	4.22 million ha
Total area of reserved old-growth forest	2.83 million ha
Percentage increase in old growth reserved	42 per cent

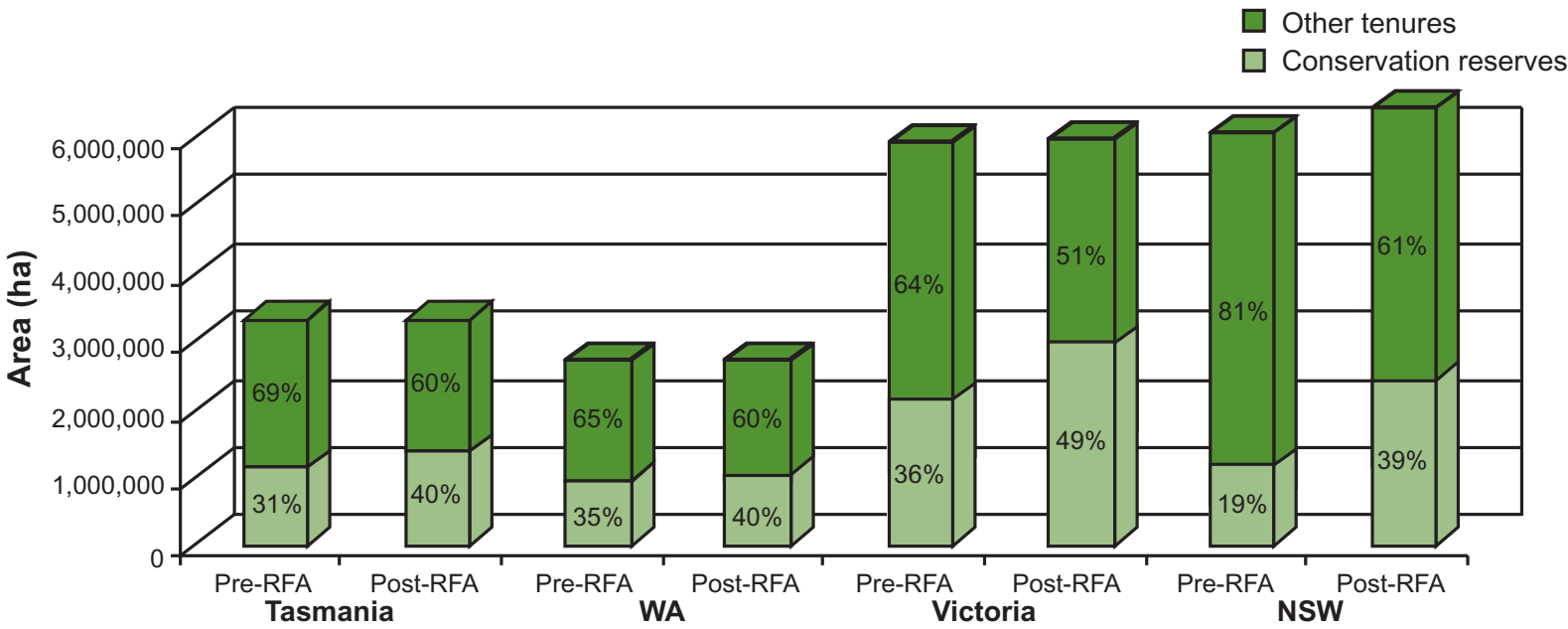
Native ecosystems by land tenure for all RFA regions



Increase in area (ha) of conservation reserves by RFA region



Conservation reserves as a proportion of total native ecosystems pre- and post- RFA by State



Assessments clarify RFA **flora** and **fauna** pictures

In a country as megadiverse as Australia, where there are more species of ant on Canberra's Black Mountain than there are in the entire United Kingdom, assessing forest biodiversity is a major undertaking.

Owls' calls find more than owls



The powerful owl.
Photo: Ed McNabb

Ornithologist Ed McNabb's library of tape recordings of large forest owls paid dividends in the terrestrial fauna species assessments in Victoria during the RFA process.

Mr McNabb, an RFA field team leader from the Arthur Rylah Institute in Melbourne, has spent 20 years studying owls and

has made hundreds of recordings while tracking them down.

Large forest owls, like the powerful, barking, sooty and masked owls, are top order predators. They occupy large home ranges and require hollow-bearing trees for nest-sites. Their prey mainly includes hollow-dependent arboreal mammals such as possums.

"Our survey was targeted on four large forest owl species to protect their habitat in the RFA regions," Mr McNabb said. "But one of the great side benefits was that many arboreal mammals responded to the calls of the predators, and we obtained a lot of data for our base on the distribution of mammals in general."

Several methods were used to detect the owls and arboreal mammals at hundreds of pre-selected sites in the Victorian regions. But the main one was to broadcast recordings of the owls' territorial calls in the forests for two minutes at a time at night and listen for response calls from each species. After the broadcasting-and-listening periods, the ornithological teams spent another 10 to 15 minutes spotlighting on foot to try to sight the owls.

Scientists who worked on the RFA biodiversity jigsaw puzzle may not have collected all the pieces, but the picture in many parts of Australia is clearer than it was four years ago. And the fruits of their efforts can be seen through the steps taken in the RFAs to protect endangered and rare flora and fauna species.

Through biodiversity assessments in each of the RFA regions, the scientists reviewed existing information and added new material about individual flora and fauna species and their habitats, forest ecosystems and communities, and threatening processes.

The hundreds of research, fieldwork and analytical projects undertaken were the lynchpins for the biodiversity component of each of the comprehensive regional assessments, which provided the information bases for the RFAs. The CRAs reviewed existing information and the results of additional studies of priority taxa and communities.

Adequate information was needed to understand the distribution of plants and animals, and relate this to their habitat requirements. The data review relied on expert knowledge and professional judgment, supplemented by explicit analysis.

The review of existing information involved two main elements.

The first was an audit of biological survey data to identify any major information gaps, including areas requiring more survey work. Only survey data that met required standards of

accuracy, precision and reliability were selected and assessed. The scientists undertook additional survey work and field checking when they considered the data inadequate.

The second element focused on reviewing information on species and forest ecosystems, the effects of threatening processes and whether there were existing or proposed management actions to address them.

The range of biodiversity projects included mapping of regional ecosystems, survey and analysis of flora and fauna, assessment of threatening processes on priority species and genetic diversity studies.

Existing vegetation of the proposed RFA regions was mapped to identify vegetation communities, including forest, woodland, open woodland, rainforest and vine thicket, and non-forest ecosystems. A range of data sources, including aerial photographic interpretation and estimates of landscape changes during the past 200 years, was used to develop maps representing coverage in the regions before 1750.

Flora assessment involved analysing the distribution and viability of individual plant species and their populations in the RFA regions.

The scientists undertook several projects to assess fauna habitat. They compiled databases detailing the distribution of freshwater and terrestrial vertebrates and selected invertebrate species. The gaps they identified led to systematic fauna surveys in a number of regions.



Pictured, clockwise from left, are: The spot-tailed quoll. Photo Bill Butcher, State Forests of NSW; The long-nosed potoroo, one of two rare potoroos found in south east Australia; Preparing an Elliot trap for small furry animals. Photo: Cameron Slatyer.



At a glance

The nine regional forest agreements reflect the scope and intensity of the biodiversity assessments and improve the protection of many rare and endangered species of flora and fauna.

Tasmania's RFA accelerated the recovery process for a number of species, including the Tasmanian giant freshwater lobster, one of the world's largest freshwater invertebrates. It is the first invertebrate species to be listed under the Commonwealth Endangered Species Act.

The RFAs for the Eden, East Gippsland and North East Victoria regions were good news for the long footed potoroo, which lives in wet to damp forest with dense understorey vegetation and feeds mainly on underground fungi. The dedicated component of the CAR reserve system protects almost all known habitat areas in the Eden region. Special management zones are included in the East Gippsland and North East regions to protect core habitat areas. And fox and dog control will be carried out in selected areas of the East Gippsland region together with ongoing population monitoring.

Key habitat areas for endangered sooty and powerful owls are also protected in the RFAs for the three regions.

A significant area of hollow bearing trees in key habitat locations is now part of the CAR reserve system in the Central Highlands RFA region of Victoria, home of the once-thought-to-be-extinct Leadbeater's possum.

The RFAs protect suitable habitat for the spot-tailed quoll in the CAR reserve systems of the Gippsland and West Victoria regions.

The Commonwealth and Victorian governments agreed to implement Victoria's interim strategy to protect threatened populations of the baw baw frog in the Central Highlands RFA region. Additional information obtained from Victoria's commitment to undertake targeted research and survey work will be used for better management of the species.

In Western Australia, the RFA for the South-West Forest Region captures areas identified in the CRAs as 'hotspots' for endemic species, plant species richness and species important because of evolutionary biology. Additions to the CAR reserve system improved protection for the sunset, yellow-bellied and white-bellied frogs.

The RFA for NSW's North East region protects threatened flora and fauna within the reserve system and, through prescription, in areas outside the CAR. The threatened plants include the hairy quandong and a species of green hood orchid, while animals under threat include barking and masked owls, the southern-barred frog, and squirrel and yellow-bellied gliders.

In Tasmania, a 'multi-species' team is undertaking recovery action for a number of threatened forest plants. Work began as part of the RFA. A project was established to include nationally and State-listed species, which often occur in the same habitats.

The West Victoria RFA protects a substantial proportion of plains grassy woodland and a range of similar ecological vegetation communities (EVCs) dominated by river red and yellow gums.

Fauna surveys give scientists fresh start

“The Regional Forest Agreements provided one of the rare opportunities to do comprehensive fauna surveys right across the landscape,” said Dr Graeme Newell, project manager for RFA fauna research at Melbourne’s Arthur Rylah Institute for Environmental Research. “In some ways, this was a fresh start.”

Dr Newell coordinated fieldwork in three of Victoria’s five RFA regions after moving to the Arthur Rylah Institute, which conducts biodiversity research for the Department of Natural Resources and Environment, from CSIRO Wildlife and Ecology in late 1997. As he put it, “I hit the ground running”.

The scientists before him had assessed the East Gippsland and Central Highlands regions through desktop studies “because there was plenty of existing biodiversity information”. But this was not the case in the Gippsland, North East and West Victoria regions where new information was required.

“Fauna surveys of this magnitude can be approached in several ways,” Dr Newell said.

“One possible way is to undertake an audit of existing information and structure surveys around the gaps in our knowledge base.

“While this approach may be good at augmenting the existing data, it can have limitations in gaining a clear snapshot of the current situation for the distribution of fauna,” he said.

Another more rigorous approach was to randomly sample the fauna across the landscape to obtain that contemporary ‘snapshot’ in a systematic manner.

“There was a lot of fieldwork done in those regions,” he said. “In the North East, for example, we did more than 200 sites and, for each of those sites, we had teams usually working in pairs. We had independent teams surveying for birds, mammals, reptiles and frogs, and a ‘nocturnal’ team surveying owls and arboreal mammals.”

The fieldwork scenario and the team groupings were repeated in other regions of Australia where scientists undertook similar systematic surveys to obtain a clear picture of the fauna’s

habitat requirements and where they are in the landscape. In NSW, teams of local volunteers joined them for round-the-clock surveys. Volunteers from Birds Australia worked alongside professional ornithologists during some of the survey work in Victoria.

“A systematic fauna survey attempts to sample all the animals at a site,” Dr Newell said. “It’s haphazard in one sense, in that you end up basing your selection of survey sites on factors like rainfall, temperature and geology to try to break up the landscape into discrete groups.

“It’s interesting, as you have no clear idea of where you will be working when you start the job. Obviously there’s the potential for thousands of sites to be surveyed across the landscape, so we needed to reduce these to a manageable number. To get this we asked the computer to make a random selection for us.

“And interestingly, it allows you a lot more power to detect what’s happening in the landscape later on when you begin making statistical comparisons,” he said.

Tasty tidbits tempt fauna

Sardines and peanut butter were among the tastier tools employed in RFA fauna projects.

One of the survey methods used by scientists was hair tubes with sticky surfaces that retain body hairs from animals as they try to access enclosed baits. The hairs are mostly species-specific and can be identified following microscopic analysis.

For herbivores, they baited hair tubes with such delicacies as rolled oats, peanut butter and pistachio essence, while rare native carnivores like quolls were tempted with treats including sardines, chicken, flour and tuna oil.

Another method to detect the range or presence of native fauna was the analysis of hair and other remains from faecal pellets, or scats, from predators such as cats, dogs and foxes. In the West Victoria RFA region, for example, a southern brown bandicoot was detected in a fox scat found near Maldon in Central Victoria, suggesting the species might have a larger range than expected.

Scientists used two separate means to determine the presence of bat species. In the first, they set up harp traps to capture bats on site. They also recorded echo-location calls through ultrasonic detectors connected to laptop computers.

The ultrasonic detectors were usually set at least 30 metres away from the harp traps, with the microphone mounted on a stake, about half a metre above ground. The rest of the unit was camouflaged with leaf litter or buried. The upward-angled microphones pointed away from the traps, along the track or into a clearing.

In heathy woodland and dry foothill forest in the West Victoria RFA region, scientists recorded the presence of two species—Gould’s long-eared bat and the eastern false pipistrelle—normally associated with tall forests.

With thousands of species of invertebrates to choose from, the Victorian research teams narrowed their survey down to ants, which they captured in pitfall traps. Pitfall traps are wide-mouthed plastic jars filled with a small amount of ethylene glycol (anti-freeze) and other chemicals to preserve insects that fall into them.

GPS and where the plants are

Most people identify GPS (Global Positioning System) units with navigation on land or sea or pinpointing locations. In Western Australia, botanists used GPS as an additional tool during the RFA process to help update maps of declared rare flora sites in the State’s South-West Forest Region.

Dr Ken Atkins, principal botanist with the Department of Conservation and Land Management (CALM), said the department used GPS to ensure that the coordinates in its database for the sites were accurate. It surveyed 191 declared rare flora populations in the RFA region.

“We had a database of all rare flora population information made up of historical material and monitoring we had undertaken ourselves,” he

said. “We revisited these rare flora sites to obtain information for the RFA that was as current and reliable as possible.”

It’s not the first time that CALM and others have used GPS for mapping, but its use in Western Australia has been sporadic and initially concentrated in the more remote areas of the State.

CALM did not rely on GPS alone for the RFA mapping exercises. As a secondary check, it included recorded land tenures in the database with the GPS coordinates to ensure the information used in the planning process was accurate.

The work undertaken in Western Australia mirrors in scale and complexity the flora

species assessments carried out in other regions of Australia as part of the RFA process.

Apart from its surveys of threatened flora throughout the South-West Forest Region, CALM undertook field surveys in 150 flora sites stratified by landscape unit and fire history, collecting more than 13 000 voucher specimens. In addition, it collected information on the flora’s phenology, degree of flowering, presence of seed capsules, the survival of plants from year to year and age since the last fire.

Of the 3244 native flora taxa found within the RFA region, CALM identified 58 declared rare flora and designated 390 as priority flora.

Environment projects

The environment assessments for each CRA region were a major part of the investment in RFAs. These projects, commissioned and overseen by Environment Australia, covered hundreds of projects. The number of projects within each region reflected the breadth and depth of existing knowledge, and the size and diversity of the regions, but most covered the following areas:

Biodiversity

Forest ecosystem classification and mapping
Analysis of pre-1750 forest ecosystems
Mapping of vegetation complexes
Flora and fauna surveys, and data reviews
Habitat assessment

Surveys of priority fauna species and habitats
Responses to disturbance (including impact of pests, grazing, mining, fire and clearing)

Old growth

Old-growth data review
Old-growth mapping, including aerial photographic interpretation
Old-growth forest reservation analysis
Hollows projects

Wilderness

Deriving wilderness quality
Mapping wilderness and extensive natural values

Ensuring old-growth forests for the future

There are few more evocative terms in the popular vocabulary of the forest debate than that of "old-growth" forest.

To many Australians at the beginning of the 21st Century, the term "old growth" is evocative of ancient forests, tall majestic trees that provide a spiritual link with the past, an expression of natural beauty, a practical haven or refuge for unique flora and fauna.

As John Dargavel, of the Australian National University's Research School of Social Sciences, pointed out at a 1996 conference on forest age for the Australian Heritage Commission, it wasn't always that way.

"In Australia, old trees were first seen as obstructions to the spread of agriculture, while in State forests they were either prized for their timber or, if unmerchantable, treated as obstructions to the growth of profitable young ones," he said. "Now, old growth has gained specialist and official importance on account of the environmental values ascribed to it."

Defining a term as value-laden as old growth, translating it into national public policy, assessing it across a vast array of ecosystems and applying it in a practical way through the "JANIS" criteria was one of the greatest challenges of the RFA process.

When the comprehensive regional assessments began in earnest in 1996, there was general agreement that old-growth forest was an important part of the environment for its visual and spiritual values as well as the habitat it provided for some animals and plants, including rare and endangered species.

Old-growth forest requires special consideration when making land-use decisions because of the time it takes for a forest to become old. Depending on the type of forest it may take hundreds of years for a forest to get old-growth values.

But the questions were seemingly endless. What is "old"? Why is it important? How is it most effectively measured? How much old growth should be conserved in reserves, and why? How can one assess the visual and spiritual values of old growth, as well as the economic and environmental ones?

One important consideration noted in the report on the nationally agreed criteria for the CAR reserve system is that old growth is "part of an ecological succession, is not static and cannot be maintained indefinitely merely through the reservation of existing examples of that age-class".

So the inclusion of old growth in reserves had to be seen in the context of a mosaic of age-classes which, with ecological processes intact, would have the potential to generate the old growth of the future.

Given the complexity of the issue, the RFA process made some considerable advances in the identification and protection of old growth. They include:

A nationally agreed definition

The National Forest Policy Statement defined old-growth forest, but States and the

Commonwealth had also developed operational definitions to help them map and define old growth. To ensure a consistent approach was adopted across Australia when mapping old growth for the comprehensive regional assessments, a nationally agreed definition was developed. It defined old growth as:

ecologically mature forest where the effects of disturbances are now negligible; where:

- ecological maturity is defined by the characteristics of the older growth stages which would be reached by that forest ecosystem within a regional context;
- the assessment of the significance of disturbance effects must be made in the context of relevant data availability on the structural, floristic and functional qualities that would be expected to be characteristic of the ecologically mature forest ecosystem; and
- negligible disturbance effects will be evident in most forests by a significant proportion of trees with age-related features and a species composition characteristic of the ecologically mature forest ecosystem.

Comprehensive regional assessment of old-growth forest

Mapping of old growth was a major undertaking of the comprehensive regional assessments, based mainly on interpretation of aerial photography and knowledge of the area's history.

It delivered for the first time a thorough knowledge of the extent and distribution of old growth in forestry regions in Australia.

Old-growth reserve criteria and targets (JANIS)

The Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia (JANIS 1997) included specific targets for old growth by forest ecosystem.

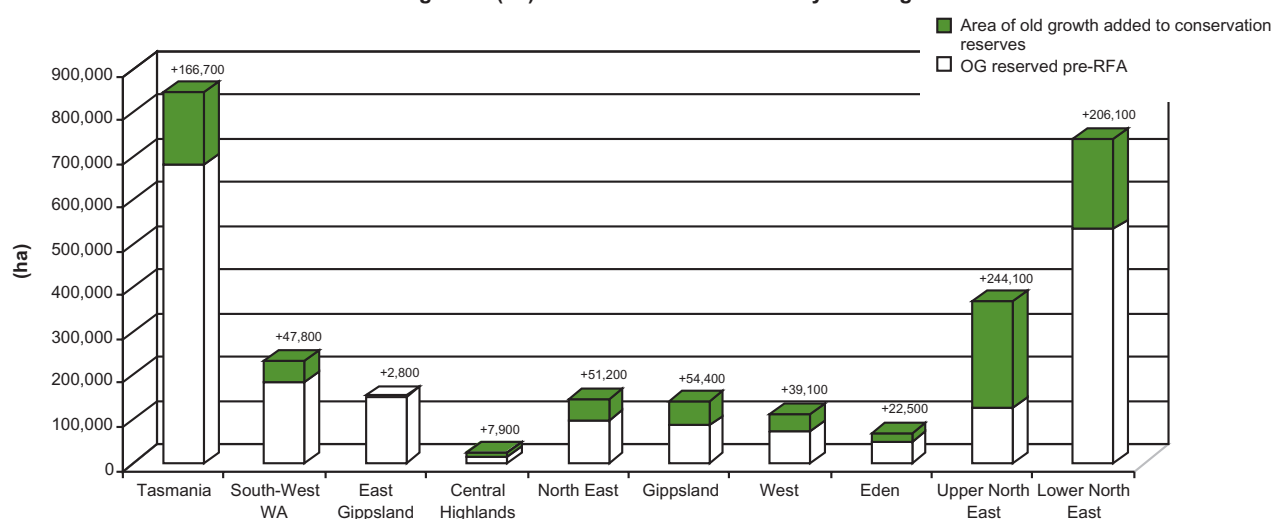
The base target was for protection of 60 per cent of the current extent of old growth, with provision for 100 per cent reservation of old growth that is rare or depleted.

Protection of old growth

Building on the nationally agreed definition and the comprehensive assessment and mapping of old-growth forest across all of the RFA regions, the RFAs contain the commitments governments have made to the protection of old-growth forest.

Across the nine RFA regions, the agreements have increased old-growth protection by 42 per cent.

Increase in area of old growth (ha) in conservation reserves by RFA region



WANTED:

Natural tree hollows 180 – 400 years old

Brush-tailed phascogales and eastern pygmy possums want natural tree hollows that are small, with narrow entrances. Parrots are on the lookout for them when they are middle-sized. And glossy black cockatoos and masked owls are after the larger and deeper ones.

Natural hollows in trees are often essential for many wildlife species, providing refuge from weather and predators, and safe sites for roosting and breeding. In fact, the older the tree the better because only old trees have natural hollows.

According to Dr Phil Gibbons, a forest ecologist with the New South Wales National Parks and Wildlife Service, natural tree hollows only really come into their own on the wildlife market when a tree is around 180 years old.

*Pictured left is a brown antechinus in a tree hollow.
Photo: Doug Mills.*

During the Regional Forest Agreement process, Dr Gibbons worked as a consultant on fauna modelling in the North East and Southern regions of NSW, one of the many research projects undertaken as part of the comprehensive regional assessments of the State's forests.

Most species of eucalypt and other long-lived trees produce hollows. Generally, gums and boxes tend to produce them more readily than stringybark and ashes. Wildlife also use hollows in other native trees and shrub species, such as shrub box and Antarctic beech.

The right kinds of hollows are generally found in mature trees, which can live around 400 years, and dead trees. Young trees are normally healthy and resilient to the formation of hollows that are attractive to wildlife. The hollow openings can range from as small as 2 cm to as large as 75 cm, with depths ranging from 10 cm to 10 metres.

Cultural heritage —a forest's many meanings



*An old gold mine near Bendoc, Victoria's most north eastern town.
Photo: Australian Heritage Commission*

For many Australian communities, natural eucalypt forests have heartfelt meaning. Associated with thousands of years of Indigenous use and occupation, more than two centuries of European settlement and the values of today's communities, assessing that meaning was the complex task of the cultural heritage projects.

The inclusion of cultural heritage in the RFA process was a significant development in forest management and heritage studies. There were many challenges, including ensuring extensive consultation from grass roots to national levels; developing complex assessment methods for large areas; and ensuring the parameters of cultural heritage reflected community understanding. Another was that the administrative boundaries of regions did not reflect natural or social catchments or Indigenous language group distributions.

First, the heritage teams reviewed or audited information on the State and Commonwealth heritage registers, National Trust lists and local government studies. They identified which themes to cover, and which gaps needed filling through expert studies. Then the hard work began.

Forest history

A study of human activities like mining, agriculture, grazing, roads, establishment of settlements and timber harvesting revealed as much about natural forest values as about the human history of the forests.

Early Crown land selection files showed the location, extent and period of ringbarking of farming selections, many of which were later forfeited or abandoned, reverting to Crown land. Former forestry maps and plans and records of sawmillers' log allocations revealed approximately which areas were logged and for how long, while State government records provided extensive information on mining.

Mapping of past mining, tree felling and land clearing, along with photo-interpretation, wild fire records and grazing history helped determine the age of forests, to predict where pristine forest areas remained and where there might be undisturbed Aboriginal archaeological sites.

The major historic themes were identified as Indigenous economy, surveying, settlement, mining, timber harvesting, minor forest industries, water catchment, natural environment, recreation and tourism.

Considerations of location, topography, natural resources, specific human settlement and natural disasters provided stories of individuality and interest. For example, in the remote East Gippsland region, the story of isolation and hardship linked many themes, while the sawmilling history of the Victorian Central Highlands includes the tragedy of the massive 1939 bushfires.

Involving local communities

Community consultation was central to the assessments, with workshops and community surveys, reports and feedback sessions held throughout the RFA process.

In each region, workshops were held in several locations with community group representatives ranging from scouts, Country Women's Associations, Landcare groups, historical societies, conservation groups, timber workers, farmers and graziers to teachers and horse riders. Participants recorded and identified on maps places of heritage importance.

The result is a fascinating array of places that community groups consider important. Apart from well-known historic sites of mines and tramways, data included landscapes of great beauty. Others were associated with communities united against natural disasters, like flood markings on a pump-house or a town fire bell.

The workshops often sparked enthusiasm in the broader community, as participants reported

back on their work. In one region, they inspired local schoolchildren to draw pictures of places they felt were special, like swimming holes.

Workshops in capital cities included such recreation groups as motorcyclists, cross-country skiers, shooters, field naturalists, canoeists and gemstone fossickers, as well as apiarists, forest and park rangers. Their information was assessed and researched.

For Indigenous groups the cultural heritage component varied from State to State. Workshops and meetings established an agreed approach to protect Indigenous heritage places. In some areas such as Western Australia, Aboriginal people identified areas of forest important to them. In other States, they wished to keep their knowledge of heritage places within their groups. Aboriginal people in Victoria's North East region agreed to a sensitivity zoning approach, to highlight areas highly sensitive to impacts.

Identifying cultural places

In many cases, the initial information review showed the existing records of cultural forest places came from ad hoc discoveries rather than systematic investigations. The exception was Tasmania, where past National Estate grants had thematically identified many important forest places.

The cultural heritage team developed directions for the selection criteria—for example, places of historic importance were sought which represented a regional theme or story, and which could demonstrate the development of a technology, had enhanced condition and integrity, or were an outstanding example of a type.

Information from the workshops was invaluable in researching, identifying and surveying places of historic importance.

Specialist sawmilling studies revealed the extensive network of timber tramways in many RFA regions. Examples of evolving timber-harvesting technologies were recorded and unique surviving examples revealed, such as timber-drying kilns. A wealth of information was revealed about forestry worker campsites, found in all RFA regions. Some were first used by Depression-era workers in the 1930s, then as World War II internment camps before accommodating migrant workers or becoming boys' camps in the post-war period.

Other studies explored region-specific themes such as hydro electricity, water catchments, alpine recreation, World War II, communication and bushranging. In Victoria's North East, a group of sites connected to bushranger Ned Kelly were recorded.

Places of community attachment or social value were identified at the workshops and assessed through local surveys. They included community halls, popular recreation areas and sites of events such as the forest protest blockade sites from anti-forestry campaigns of the 1970s.

Assessing places of aesthetic value involved the development of a new method using a multi-layered approach, which assessed data from art, literature and tourism sources, as well as from communities and forest rangers. Landscapes identified included waterfalls, river corridors, mountain tracks and ranges, water catchments and viewing points.

Managing cultural heritage values

For each RFA, the Ecologically Sustainable Forest Management assessment analysed planning, implementation, monitoring and review processes. Where weaknesses were revealed in management practices for cultural heritage, implementation of the RFA involved ensuring that measures were in place to adequately protect, manage and monitor cultural values.

All RFAs have resulted in new and improved guidelines, systems and linkages between land management agencies, with management protocols aiming for best practice for cultural heritage protection. Management in some sites may involve a simple set of instructions for land managers while others with complex values, such as a former mining landscape with overlays of historic, social, aesthetic and scientific values, need more extensive plans.

Indigenous people made it strongly known that the forests were full of places of importance to them including spiritual, archaeological and historic sites, and places where they hunt and collect craft material. They emphasised that sites could not be separated from larger landscapes and that heritage and other values were inseparable. They stressed their involvement in the management of forests that are part of their traditional country was critical, with an underlying need for good communication with land management agencies.

The RFAs have firmly established a holistic approach to forest management with the inclusion of all environment and heritage values. Cultural heritage concerns were a small component of the RFA projects, but were comparatively large in the realm of heritage studies. They have initiated new methods, challenges and an ongoing interest in Australia's forest heritage.

The cultural heritage assessments for the RFAs were jointly managed by Environment Australia and State government agencies.

The ruins of the home of Ellen Kelly, mother of bushranger Ned Kelly. Photo: Australian Heritage Commission



Ecologically Sustainable Forest Management

Of the scores of scientific projects for the RFA process, the Statewide and regional assessments of Ecologically Sustainable Forest Management (ESFM) were perhaps the most daunting and complex.

As the Expert Advisory Group for ESFM in Victoria noted in the foreword to their first report for East Gippsland in July 1996, "This assessment of ecologically sustainable forest management is perhaps the first comprehensive analysis of the processes involved. Thus, there are no long-established benchmarks against which the achievement of ecologically sustainable forest management can be assessed."

Dr John Raison, program manager, Native Forest Management, CSIRO Forestry and Forest Products, and Dr Robert McCormack, also of the CSIRO Forestry and Forest Products Division, were members of the Expert Advisory Group that laid the foundations for the ESFM assessments. Dr Raison has conducted research on the ecology of native forests for 20 years, with an emphasis on the effects of fire and harvesting on nutrient cycling and production, and he and Dr McCormack have been closely involved in the RFA process throughout the country. We asked them what the RFA process had achieved for the science of ESFM, what lessons were learned and what challenges lay ahead.

What are the most significant achievements of the RFA process for sustainable forest management?

John Raison (JR): ESFM is in many ways the most complicated area of the whole lot, and one of the most significant achievements of the RFA process was in actually refining the methodology for assessing it, and working out the relevant framework and values. Assessing ESFM requires an integration of a huge amount of biological, social and economic information. For the first RFA—East Gippsland—we sat for weeks and weeks working out how we were actually going to do this assessment. The methodology itself was very important, in turning people's attention to what sustainability actually means. How do you assess it? How do you quantify it?

The timing of the process was significant. The RFA process came at a good time in the international debate about the use of forests. In each State, there were different processes, different levels of awareness of sustainable forest management. The RFA process was very useful to provide a new perspective on ESFM.

Bob McCormack (BMcC): Because we had a common methodology, which in each State highlighted both strengths and weaknesses, each State has the opportunity to learn something from every other State.



JR: A number of things have arisen from the RFA process, or are developing parallel to it, including the proposal for an Australian Forestry Standard. We now have criteria and indicators of sustainable forest management developed as part of the Montreal Process, and these tools are being incorporated into forest management.

The RFA process has really given us a national perspective on forestry. We used to have a national approach earlier, but that died away with increasing controversy State-by-State.

People in this CSIRO division have also had a big role in the various Codes of Forest Practice, which are not directly related to the RFA process but are linked very clearly. They underpin some aspects of ESFM. The RFA process came at a useful time in that it certainly accelerated the work the States were doing in improving their Codes of Practice.

How has the RFA process influenced the CSIRO's research agenda?

JR: It has certainly influenced the direction of our research. For example, we have had to try to develop methods for spatial analysis on a large scale. It has focused everyone's minds on the fact that forests have to be managed on a landscape scale. The only way you can do that is to have some way of knowing in a spatial sense what's there—and what impact you have when you manage it in different ways. Because the landscape is a mixture of production forests, conservation forest, multiple-use forests, special protection zones and so on, we used the best available technology and tools to allow better spatial analysis and modelling. This has provided a spur to a lot of improvements in forest growth modelling, remote sensing of forest conditions such as habitat, forest health, growth rates and so on. We are also investing heavily in research to

guide the use of criteria and indicators to forest management.

How important are stakeholder groups in terms of ensuring ESFM?

JR: Community and stakeholder groups do play a very important role in land planning processes, particularly at the regional level. But because it is a very complex issue, it takes the stakeholders a fair while to actually understand what ESFM is about. The various RFA regional fora around the country were very good at getting the dialogue started on this. They contributed to a better understanding and to building trust between opposing parties.

It would be a great tragedy if this mechanism for dialogue were lost. It's essential for that to be ongoing so people can come to grips with complex and changing concepts of sustainable forest management. Without that we may just drop back to the polarised debate.

From an ESFM point of view, what was the role of science in the RFA process?

JR: The assessments generated a huge amount of work and data. But because of time limitations the analysis and synthesis were often incomplete. The information base the RFA process created should now be better exploited. We need to collate the information and make it widely available for further analysis.

And while the CRA process was very strong on the physical sciences like forest biology, there was less emphasis on the social and economic aspects. There is a certain naivete in the belief that physical science itself can solve forest debates. In fact there must be ongoing

dialogue and analysis. We need more social science, more interaction via community fora. ESFM can't be a one-stop issue. As we so often say, it is continually evolving and improving.

We have learned a great deal about how production forests are managed. What about forest management in reserves and in private forests?

JR: Converting production forest into reserves presents its own challenges. We have a much poorer information base to guide management of reserves, and less money for research or management because usually reserved forests generate less money.

One of the major challenges ahead is the management of private forests, which the RFA process did deal with adequately.

BMcC: You could say that a large part of the energy absorbed by the RFA process went into the reserve process and trying to meet the JANIS targets. This was a key process and in many ways represents the peak of the mountain. However, across the mountain and on the other side and going into the future there are substantial areas of private vegetation to be managed effectively (at least in ESFM terms). There is more left to do on private land.

How does the RFA process stand up internationally?

JR: The RFA process did a very credible, world-class job of bringing a very large diverse group of people together from a range of different agencies to approach a common problem. It rivalled, for example, Clinton's FEMAT process to protect the northern spotted owl in the United States. (*In 1993, the Clinton administration established the Forest Ecosystem Management Team, drawn from the Bureau of Land Management, the United States Forest Service, the US Fish and Wildlife Service and regional universities. The team drew up a plan that reduced future timber harvests on federal property by 80 per cent and created a number of guidelines to manage the remaining older forest.*)

Most international visitors who hear about what we're doing with RFAs think it's very complex and very ambitious.

BMcC: We have probably spent more money than most other countries on technical evaluation—scientists, engineers, policy people and so on—as a proportion of the problem-solving process. A lot of our money was much better spent than if we had taken a less efficient, royal commission, episodic problem-solving approach to evaluating forest management against these new very broad and demanding criteria. By and large the expert panels for the RFA process went about their business without too much political interference, which was a credit to the Federal-State relationships. The technical inquiry process was quite reasonably supported. It was a big achievement really.

Continued on next page

Agreements backed up by science, science and more science



"You could say, when you stand in the forests, that nearly everything you look at, including the effects of human activities and what you stand on, has all been considered scientifically," says Mr Karl Rumba, of the Bureau of Rural Sciences.

Commenting on the breadth and number of scientific projects carried out during the Regional Forest Agreement process, Mr Rumba said the Bureau had undertaken a vast range of social, economic and environment investigations.

"We had to determine that the RFAs resulted from good science," he said. "When it came to things like sustainable yield, the Bureau's scientific independence meant it could not simply accept a system if it could not be justified and we often had to go back to fundamentals. We were required to report on the basis on which you can credit management systems."

Mr Rumba, who has worked on Comprehensive Regional Assessments and RFAs for Western Australia and New South Wales since late 1995, said RFAs were about getting away from detailed black-and-white decisions and focusing on strategic issues.

"The commitments in RFAs represent the way forward, the opposite of not being sure and lacking direction," he said. "The commitment to long-term improvement is one of the greatest outcomes people will see from RFAs building on the research leading to the agreements."

BRS participated in establishing a large number of technical committees to oversee scientific investigations and provide technical advice to help make decisions from the start of the RFA process. In many cases, where there were differences of opinion and the Commonwealth needed advice, it used consultants to assist it with its scientific assessments.

"We went back many times to outside experts, including international ones and science groups such as JSAG (Joint Scientific Advisory Group)," Mr Rumba said.

"As part of the assessments, we had technical committees to make sure we were working on the right things and to ensure there was a sensible interpretation of results. Through the network, there was a lot of peer review done at a high level.

"At the end of it, we had to ensure that decision makers got sound advice on the science on which RFAs could be signed," he said.

EcoPlan tools have life after RFAs

Interactive computer-based tools developed for the RFA process to help with land-use planning decisions are being used on other Australian and overseas environmental projects.

Scientists are using components of the EcoPlan tool set, as it's known, on projects in waters near the Monte Bello Islands in the North-West Shelf region, off Western Australia, on the Great Barrier Reef and in the Northern Territory.

The Western Australian study involves developing spatial models of benthic fish communities in waters 20–400 metres deep. A modified version of one of the EcoPlan tools is helping create a system of representative areas for the Great Barrier Reef.

In the Northern Territory, a number of EcoPlan tools are being used for a land-use planning project in the Daly River and Mary River regions. If the applications are successful, the Northern Territory Parks and Wildlife

Commission may extend the use of EcoPlan tools to region-by-region land-use planning.

Offshore, a number of countries in the Asia-Pacific region are either using or have shown interest in the EcoPlan tool set.

Vanuatu is using some components for a biodiversity assessment and mapping project to develop a biodiversity database for a survey of high-priority flora and fauna species.

The Canadian Forestry Service is using one of the EcoPlan tools to generate spatial models for a number of bird species, including migratory birds, in Canada. The Canadians are also evaluating the computer tool's potential for use in Northern Hemisphere forest environments, as well as its application to a major conservation problem.

The Indonesian and Chinese governments have also shown interest in EcoPlan for land management planning.



ESFM (continued from page 8)

What about Australian forest management? How does it compare with other countries?

JR: Overall, Australia's forests have a sound basis for management, a process for improving it over time. Our forests are much more complex and diverse than those in most other western countries, which makes it hard to make a comparison. There is a huge diversity, because of a whole range of factors including climatic gradients, soil fertility gradients, fire

and of course the history of the forest—how it's been managed and so on.

It is very different and much simpler in countries with simplified forests. The Scandinavian countries, for example, have very highly managed forests. But the boreal forests have only about six to eight species of trees.

BMcC: So certifying some of the simpler forests in Sweden is a bit like certifying a plantation or even a wheatfield.

“Because social assessment was relatively new within forestry, we reacted and responded to needs as they came up,” said Pam Robinson, one of the forest community coordinators who undertook social impact assessments for the RFAs. “It wasn’t that social assessments hadn’t been done before, it was the scale of the process.”

Pam’s patch was Victoria, location for five of the nine regional agreements signed between the Commonwealth and the New South Wales, Victorian, Western Australian and Tasmanian governments.

Forest community coordinators for each State, or regions within a State, were employed full time by Agriculture, Fisheries and Forestry—Australia (AFFA), sometimes jointly with a State-funded counterpart, to determine the social values of Australia’s forests.

Their work, together with separate analyses of the natural, cultural and economic values of Australia’s forests, was published as comprehensive assessments for each forest region, and formed part of the scientific information base for the development of each RFA.

Because they needed close and regular contact with RFA regions and the State for which they were responsible, coordinators spent most of their time outside Canberra.

Pam, who was based in Melbourne, said the establishment of her role as slightly apart from that of a government officer gave her greater access to rural and regional communities.

New ground

The social assessment process for the RFAs was breaking new ground in natural resources policy at Commonwealth and State levels and the coordinators had to determine for themselves the most effective and efficient way of working.

The assessments reflected increasing awareness among government, industry and the community of the importance of

The human face of the RFA process

considering the social dimension of land-use decisions. The work of the forest community coordinators and their teams was to assess the effects of any changes in forest use on people’s way of life and their community.

In the first instance, this involved determining how people lived, worked and interacted with each other on a day-to-day basis. The assessors looked also at each community’s cohesion, stability, character, services and facilities.

They used a wide range of tools to carry out their work. Through desktop research, they analysed the statistics and demographics of each region.

Surveys

Random telephone surveys about general attitudes to forest use and management issues helped establish the importance of forests to the community. The surveys covered more than 1000 households in each region.

Additional surveys were undertaken of forest industries, mill employees and forest users such as timber workers, contractors, State Forests and National Parks employees, beekeepers, craftwood and firewood collectors, tourist operators and people with grazing and mining permits in the regions.

The information gleaned from the surveys was analysed to describe the links between the sawmills and towns where forest user businesses and employees live and spend their money.

The coordinators also supplemented their data through community workshops and focus groups with a broad range of stakeholders.

The dual role of the forest community coordinators as analyst and advocate for about 80 forest-based communities ensured that



Extensive consultations were held with RFA communities. Photo: Michael Jensen

governments were directly informed of stakeholder concerns and aspirations.

Most of the coordinators were women, who lived in the regions under study. They brought to the job extensive experience in issues affecting regional Australia, professional qualifications in social planning and an intricate network of contacts.

Because community participation was central to the majority of social assessment projects, the coordinators had regular and direct contact with a vast range of regional stakeholder and community organisations over a period of at least 18 months.

Apart from traditional forest user groups, such as mill workers or regional conservationists, they were in contact with local businesses, service providers, including health and education, voluntary organisations and groups representing women, youth, the aged and many other sectors of the community.

Feeling the ‘pulse’

“Of all government officers in the RFA process, including public affairs and communications practitioners, forest community coordinators were best placed to feel the ‘pulse’ of an RFA community,” the assistant secretary of AFFA’s Forest Assessment Branch, Allen Grant, said. “They were able to relay community concerns quickly and effectively back to government.”

In a paper to a CSIRO workshop on intensive forest management, the forest community coordinator for the Upper and Lower North East regions of New South Wales, Anni Chilton, reflected on the findings of the social assessment projects and their analyses of more than 80 communities.

“Historically, social impact assessment has been concerned with tangible impacts such as

job losses, and has paid relatively little attention to less tangible issues such as community aspirations,” she said.

“However, perception is an important consideration and, if an impact is perceived as real, it is real in its consequences.”

It had been suggested frequently during the forest debate that tourism was a development opportunity for forest-dependent communities and, in the main, communities seemed supportive of this proposal.

Some communities had identified their own needs, organised access to the services they needed, acted to strengthen their community network, and established their own support and action groups. They had shown that crisis could be managed for long-term benefits.

“In contrast, other communities have been unable to identify the resources to sustain them and lack a sense of hope or vision,” Anni said.

“Processes such as social assessment can serve to ensure that those most likely to be affected by change are involved in the change process and instrumental in finding equitable and workable solutions.”

Australia’s unique social assessment process has already been showcased to the world’s leading forestry experts at an International Forestry Conference in Turkey, confirming Australia as a world leader in sustainable forest management.

Pam Robinson and Dr Sheri Coakes used Victoria’s Central Highlands region as a case study of how the RFA process factors people and communities into forest policy.

Pam also visited Oxford in late 1999 to lecture on social assessment policy.

Social sciences centre

Understanding Australia’s rural and regional communities is firmly on the agenda of Agriculture, Fisheries and Forestry—Australia (AFFA), with a social sciences centre within the Bureau of Rural Sciences (BRS).

An independent scientific bureau within AFFA, BRS analyses, assesses and packages science for the sustainable development of Australia’s agricultural, fisheries, food and forestry industries.

Established in 1998, while the RFA social assessment process was in full swing, the centre covers a range of disciplines including psychology, sociology, public policy, demography, geography, political science, anthropology and history.

Social impact assessment was an important component of the RFA process. It successfully created an understanding of the social context in which the forest industry operates and demonstrated the benefits of better integration of social sciences into policy development.

A social atlas of rural Australia was one of the first major tasks for the new centre. Published in October 1999, it made available for the first time easy-to-read, map-based information on a range of rural social and demographic conditions, including population, labour force and employment, income, education and health.

RFA spurs timber-to-ethanol project

The social assessment report for the Upper North East of NSW identified Grafton and its immediate vicinity as having the highest concentration of people who work in the region's hardwood timber industry.

It recognised the industry as a major source of stability in the community and considered the Northern Rivers "city of trees" to be highly sensitive to changes in forest use and management.

But the Grafton community has not sat idly by while the needs and pressures for change have built up. People like Mrs Heather Roland and Mr Don Frater, who were deeply involved in the processes leading up to the RFA, including the social impact assessment, were actively pursuing possibilities to build on the area's timber resources.

Value adding

"We've been very interested in seeing how we can value add," Mrs Roland, chair of the Northern Rivers Regional Plantation Committee, said. "Our mills have been value adding for a long time. They've also invested money in retooling so that they can continue with a different type of value adding. There are lots of positive things happening."

The North East NSW RFA, which was signed in March 2000, maintained timber supplies at 1999-contracted levels for 20 years. It also established the need for timber plantations.

"The RFA was the final catalyst for a value-adding project which has been under the Northern Rivers Regional Development Board's consideration for some time—to turn waste timber into ethanol," Mrs Roland said. "We had the market for the various stages of timber that would be produced, but we had not established a market for the thinnings, which are important."

Mr Frater, the Northern Rivers Regional Development Board's executive officer, said that in other places the thinnings, which were considered waste timber, might be exported as wood chips. "But we don't have a market for this product," Mr Frater said.

Pulp production

Another area the Grafton community looked at was pulp production. However, the industry did not have enough material to take it further and considered it would be five years before it would be ready.

But producing ethanol from waste timber was a different story. Talks are underway with private investors on a \$70 million pilot project to convert waste timber to ethanol. Using leading Australian technology, special enzymes added to a digester containing the waste timber would convert the material into ethanol.

"The end product can be used as fuel ethanol for mixing with petrol or diesel," Mr Frater said. "We will also look at producing food-grade ethanol."

The pilot will start in January 2001 and take 12 to 18 months.

Communities had their say in social assessments

Former Colac/Otway Shire councillor Alan Billing feels his experience in Timbertowns Victoria provided a natural bridge to his involvement in the RFA community consultation process in the West Victoria region.

Victorian local government set up Timbertowns Victoria in 1985 to put a local government perspective on the debate between green groups and government.

Mr Billing was a Colac (later Colac/Otway) Shire councillor in 1985, when Timbertowns Victoria was established, and served several times as the organisation's president and vice president. He stood down from local government in 1999 and severed his links with Timbertowns Victoria at the same time. Until he became a milk supply officer with Bonlac Foods Pty Ltd early this year, liaising between milk suppliers and the company, he was a dairy farmer for more than 40 years.

"I became involved in the RFA process, because I was involved in Timbertowns Victoria," he said. "When the RFA information meetings were held I was still a councillor, so I took part in the community discussions and consultations."

"My personal assessment of the community consultation process was that it was extensive."

"If I had any concern at all, it was on how you weighted the various outcomes of the many

consultations. But the people I spoke to were content that the balances were in place and I was happy that my concerns were allayed."

Mr Billing felt the consultation process was positive because "the opportunity was there for people to register an interest as part of the process".

"I was satisfied that it was all-inclusive," he said. "There were opportunities for communities to express a view and make an input. When the final outcome was being determined, those making the decision would have had the information in front of them."

In its community case study of Colac, the Social Impact Assessment Unit reported that Colac had experienced significant changes in 10 years. They included restructuring of State and local government, rural recession and restructuring of the rural sector, especially the amalgamation of dairy farms, and the consolidation of timber mills.

The study noted that, in response to these changes, the community was trying to broaden its economic base by diversifying into new products and market niches.

"The Colac/Otway Shire Council and the community are always looking to new opportunities," Mr Billing said. "As I understand the community at the moment, there have been a number of things that have come together and the community is far more buoyant."



Mr Alan Billing. Photo: Colac Herald

"We have a major aged care facility being developed. The abattoir was at risk and needed quite major new development. That has happened. A major processor of ice cream and iced confectionery, with one facility in Colac and a packaging operation in Melbourne, is consolidating in the Colac area."

"These were things that have come together while the whole process of the RFA was going on."

"That will continue because changes are always happening and they provide new opportunities," Mr Billing said.



A major challenge

"I think social assessment was considered to be a risky and innovative venture when we began," says Sue Richards, who was a forest community coordinator for nearly four years.

Sue (pictured interviewing a timber worker during the RFA process) was involved in the social assessments from the beginning.

She was a team leader for much of the time, who worked in the field and provided assistance to other forest community coordinators in Tasmania, Western Australia, Queensland, Victoria and New South Wales.

"We had to maximise community participation and produce credible and scientific data," she said.

"Doing either of those things is not difficult, but doing both of them in the one process was a major challenge."

"There we were, with the people who would be most directly affected by any decision, finding out about the quality of their lives in a survey format that would become aggregated data."

"People such as timber workers and the timber communities pinned their hopes on us as their representatives in the RFA process," she said.

RFAs bolster timber industries' confidence

Timber industry companies in RFA regions have a new air of confidence these days.

And they're converting their confidence into millions of dollars of investment in plantations, value-adding production, domestic and overseas market promotion, and the development of niche markets.

The companies are buoyant about the greater degree of certainty and stability provided by the RFAs. The turn round in demand for timber products in Australia and overseas has given their confidence an added boost.

The RFAs sought to provide secure access to wood resources and help in creating a positive environment for investment in value-adding manufacturing. A Commonwealth Forest Industry Structural Adjustment Package was also developed, as part of the RFA process, to assist business development and explore regional employment opportunities.

Neville Smith & Co (Tasmania) has spent \$1.5 million on high-tech kilns, new moulders and other equipment at its Mowbray mill, and will invest another quarter of a million dollars in the next 12 months.

"The RFA has provided about 75 per cent of the reasons for the investment," the company's managing director, Mr James Whittaker, said. "The other 25 per cent has resulted from increased demand, which has risen by 30 per cent."

His comments are echoed by the chief executive officer of Tasmania's North Forest

Products, Dr Michael Beardsell, who said the RFA had given the industry a lot more confidence than it had before.

"It's hard to measure but, for so many years, so many of the people in the industry have spent an indeterminate amount of their time on the resource issue, fighting battles, being involved in submissions and brouhahas in the media," he said.

"But the RFA has really settled that down, where people have been able to move on to the issues that generate wealth. In effect, to people going out and investing money. There's a big improvement which will be felt over time."

An estimated \$358 million of investment is directly or partially linked to the signing of Victoria's first two RFAs—in the East Gippsland and Central Highlands regions.

The biggest single investment is the \$328 million expansion of PaperlinX Ltd's Maryvale paper mill at Morwell, in the Latrobe Valley.

RFA crucial

According to PaperlinX's group general manager, Gippsland, Mr Jeff Landels, "The Central Highlands RFA was crucial, the Gippsland RFA less so, to the decision to go ahead with the expansion program because we access a fair amount of wood from that area."

"We were comfortable with the outcomes in both regions," he said.

The Maryvale Mill expansion—commissioned in July 1998—is part of a fine papers



development program that will help reduce Australia's reliance on imports. Australia imports more than half its fine paper requirements.

The new mill's annual production of 160 000 tonnes of paper can expand to 220 000 tonnes. Hardwood from plantations, local sawmill residue and low-quality wood from State forests are the main sources of fibre, the raw material used to make the paper.

Other Victorian investment

Other value-adding investment linked to the two RFAs includes: \$13 million on new kiln-drying facilities; \$1 million on chipping facilities; \$5 million on logging equipment; and \$10 million on other plant and equipment.

The Central Highlands RFA has underpinned more than \$12 million of investment in the past five years by J L Gould Sawmills to improve its operations and add value to production processes.

The general manager, Mr David Goding, said the company's substantial investment supported the industry generally in continuing to add value to Victoria's timber resources to meet the requirements of domestic and international markets.

In the East Gippsland region, sawmillers lost 48.125 per cent of their saw log quotas following a review by the Land Survey Council

in 1987 and the Timber Industry Strategy move to regional sustainable long-term yield. However, the previous one-to-three year licensing system was replaced with 15-year licences.

The managing director of Hallmark Oaks sawmill, at Cann River, Mr Bob Humphreys, said the security of the licences was enough to encourage him to start investing heavily in 1988. After the initial burst of expenditure during the first two years, investment stagnated.

He said the RFA process looked at export licences and recognised that, if a region had an RFA, export licences were not required for wood chips "an important component of our sales".

"The RFAs confirmed that we did have long-term tenure rights and tenancies, and gave us the confidence to invest," Mr Humphreys said.

Solar kilns

Hallmark Oaks has spent more than \$5 million since 1988 on value-adding further processing and has quadrupled its workforce to 48 employees. The company's investment program, since the signing of the East Gippsland RFA, includes the installation of two solar kilns—one in 1998 and the second a year later.

"The biggest amount of injection has been into the air-drying inventory and other mill processing," Mr Humphreys said.

The security provided by the Eden RFA was responsible for the opening of the Blue Ridge Hardwood sawmill development on the outskirts of the New South Wales coastal town.

"We have been assisted by the State government, but we would not have done it without a long-term guaranteed supply of wood," the site manager, Mr Bob Smith, said. "We originally had sawmills in the Monaro district, but we moved here because our wood was primarily coastal-based."

The \$10 million sawmill is a value-added mill and will handle 24 000 cubic metres of quota wood and up to 20 000 cubic metres of non-quota wood. It will employ 44 people on site in the next few months, and will have a workforce of up to 60 in 18 months.



Forest industry snapshot

Australia's forest industries turn over more than \$11.5 billion a year, contributing about 1.9 per cent to gross domestic product.

This makes them one of the largest manufacturing industries in the country, producing more than \$1 billion of income a year.

They directly employ about 80 000 people, including 62 600 in manufacturing and processing wood and paper products.

Australia has 863 hardwood mills and 256 softwood mills. The hardwood mills are generally small scale and scattered. The softwood mills are large and integrated with other processing facilities.

There are also 22 pulp and paper mills, and 28 veneer and panelboard mills.

Australia produces about 83 per cent of its sawn timber needs. Thirty six per cent comes from native forests and 64 per cent from

softwood plantations. Plantations are expected to supply 70 per cent of all Australian consumption of sawn wood by 2015.

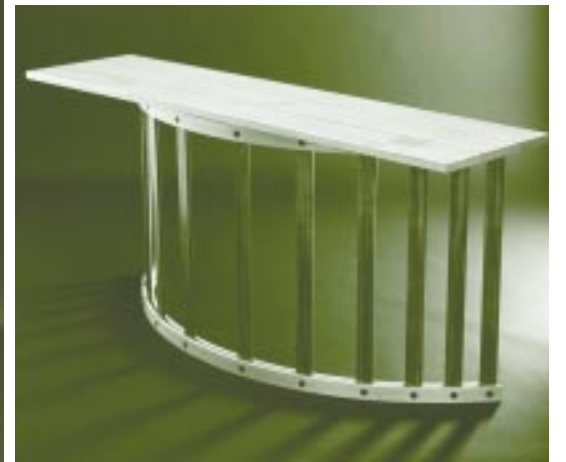
Australia exported about \$1.3 billion of forest products in 1998-99, including \$264 million of round and sawnwood products, sleepers, processed wood and other minor forest products, \$586 million of woodchips, and \$443 million of paper and paper products.

However, we imported nearly \$3.3 billion of forest products. About 70 per cent of our imports (\$2.3 billion) were pulp and paper, followed by \$417 million of sawnwood products, \$142 million of wood-based panels, and \$397 million of other forest products.

Most of our imports are from New Zealand, the United States, Finland, Indonesia and Canada, while 95 per cent of our exports are to the Asia-Pacific region.



Designer Nick Mill reveals the natural beauty of Australian timber in his silvertop stringybark chair (left—photo: Michael Ryan) and Jonathan Everett through his silver ash and blackwood sideboard (below—photo: Tyson Sadlo). The chair and sideboard were provided courtesy of Bungendore Woodworks.



Private forests

With a significant proportion of Australia's forest estate on private land, the RFA process helped to highlight the importance of private forests and their potential contribution to regional conservation and wood supply.

The significance of private forests varies markedly from region to region.

In East Gippsland, for example, less than 10 per cent of native forest is on private land, while nearly half the forest estate in north-east NSW is privately owned. The proportion in Tasmania is around 30 per cent.

Private forest resources in some RFA regions have future potential for industry supply. In others, some private forest areas are being sought to meet conservation targets.

Conservation targets for 22 of the 50 identified forest communities in Tasmania could not be met on public land alone, either because they did not occur there or because potential reserve areas were too small to ensure they would survive.

As a result of its RFA and the commitment of \$30 million from the Commonwealth, the Tasmanian Government has embarked on a

private land reserve program in partnership with farmers and graziers.

The voluntary program involves surveys and such incentives as fees paid to landowners to manage reserved forest, financial assistance with the cost of fencing and other management requirements.

"Scientists agree that further research into private forests is a priority for future work," Mr Karl Rumba of the Bureau of Rural Sciences' said. "In terms of potential wood resources, for example, we have a better idea of the area of private forests but we need to know a lot more about its condition, how well it would regenerate after harvesting or what its long term sustainable yield might be."

Landowner surveys returned some interesting results.

Many in NSW, for example, were keen to keep their forests intact and had no plans to harvest. They liked having bush and wanted to protect its environmental and aesthetic values. Others were interested in harvesting their forest, but didn't know how to go about it.



Photo: R. Sthradher

RFA underpins investment

Ten years ago, J L Gould Sawmills (pictured above) produced unseasoned structural grade timber, traditionally used in house frames, for the Victorian market.

Its integrated sawmill and process complex today uses more than 75 per cent of the timber it harvests and grades each year to turn out high-value seasoned products for markets around Australia and in Japan, China and the United States.

The company's workforce has grown from about 60 people across the Central Highlands region to more than 100 at its Alexandra complex.

J L Gould's general manager, Mr David Goding, said the company had invested more than \$12 million during the past five years to improve its operations and add value to production processes.

He said the Central Highlands RFA had underpinned his company's substantial

investment because the RFA had the potential to provide a long-term secure industry. The potential was quite significant considering the opportunities available domestically and offshore.

"Our modern bandsaws and computer technology allow us to obtain maximum value from each log," Mr Goding said. "We also expanded our air-drying and kiln-drying facilities, and added to our reconditioning equipment."

"With 12 fully operational kilns and two more under construction, we're well set up to produce high value structural products as well as appearance products such as flooring, furniture, parquet and staircases."

Mr Goding said J L Gould was working towards boosting production of high-value products to 95 per cent of its total output.

Economic and resource projects

Wood and wood products industry

Industry background and situation analysis
Economic survey of log processing
Review of value-adding/transformation opportunities

Resource

Appraisal of methods and data to estimate wood resource yields
Public forest resource description and inventory
Public forest resource description and inventory—other wood product
Forest resource enhancement opportunities
Inventory of private forests
Commercial plantation land capability analysis

Minerals

Assessment of mineral and extractive material resources

Tourism and recreation

Recreation assessment
Assessment of the significance of forests to the recreation and tourism industries

Other forest products

Apiculture
Flora collection
Forest grazing
Water resources and management

Nature-based tourism on the rise in RFA regions

Australia's forests are increasingly popular with Australian and international visitors. Visits are on the rise in all RFA regions, and are likely to continue to grow. In Tasmania, for example, visits for nature-based tourism could double over the life of the Regional Forest Agreement.

Tourism was an important focus of RFAs—in terms of process and in the results achieved. In all RFA regions, new national parks or icon additions to them, roads, and State and

Commonwealth funding for tourism development were important outcomes.

Twenty years' certainty in access to forests is another welcome result. Like all forest-based industries in RFA regions, tourism needs certainty in forest management so that local and state-based operators can get on with the job of planning.

In each region, the assessment process included analyses of tourism's economic contribution to each region in terms of business development and jobs growth.

The tourism and recreation reports for the economic assessments reported on visits to national parks and state forests, reviewed annual expenditure by visitors and the contribution of tourism to regional employment.

The contribution of other natural and cultural attractions in RFA regions—such as rivers and natural springs, mountains, ski-fields and beaches were all taken into account.

This was only one aspect of the formal assessment process. Tourism values also informed many of the other economic, social, environmental and heritage projects.

The social assessment projects, for example, looked at tourism values among local

communities and involved workshops with and surveys of big and small tourism operators.

In many traditional timber towns across States, tourism was emerging as central to the community vision for the future. Hundreds of towns saw their survival riding on a balance between tourism and resource industries—and the RFA as an opportunity to strike that balance in regional planning and development.

Tourism operators were also closely involved in cultural heritage workshops, and many are now using information and networks developed through the assessment on cultural tourism projects, particularly those focusing on the rich indigenous and non-indigenous history of the forests.

Some of the biodiversity and old-growth projects may contribute valuable information to the small but dynamic sector of ecotourism, estimated to have around 600 operators Australia-wide and offering guided bushwalks or natural history study tours across RFA regions.

In most RFA regions, domestic tourists were found to provide the critical base load for tourism businesses. For example, only two per cent of international visitors to NSW typically visit the south coast, while 50 per cent of the region's total visitors are from interstate.

Enjoying Australia's forests

National parks and state forests cater for a vast array of recreational activities, from bushwalking, rock-climbing, caving, boating and rafting to four-wheel driving, horse-riding, fishing and shooting.

Like tourism, recreation in the forests was assessed in a number of ways, with hundreds of recreation groups and clubs enthusiastic participants in a range of economic, social and cultural heritage assessment projects.

Photographs: Agriculture, Fisheries and Forestry—Australia, Michael Jensen, Michael Ryan and Forestry Tasmania

Centres for tasting the forest experience

Work started in June 2000 on the detailed design of the first of two major forest interpretation centres provided for in Tasmania's Regional Forest Agreement with the Commonwealth Government.

Through the RFA, the Commonwealth provided \$3 million for the two centres, which are to be built on the State's east coast and the Great West Tiers/Kooparoona Niara area. Each will cost \$1.5 million.

Tasmania's east coast, with its spectacular mountain and coastal scenery, is a major tourism icon and attracts more than 400 000 visits from local, interstate and overseas tourists each year.

The East Coast Interpretation Centre will be built at Freycinet National Park and will provide information on the forests of the whole east coast of Tasmania, as well as the park. It will give visitors a taste of the different elements of the forest experience.

When they leave the centre, they can drive to a network of nearby parks and reserves where they can see the trees, flora and fauna, the waterfalls and mountains of the forests they have learnt about.

The East Coast Centre, which will be managed by the Tasmanian Parks and Wildlife Service, will open in the spring of 2001.

Government and community discussions are continuing on refining the concept for the Great West Tiers/Kooparoona Niara Interpretation Centre. It will be an innovative "integrated network of interpretation" not focused on a single building, but with many different elements scattered throughout the region.

It will have four linked themes—regional networking and branding; caves, forest and wildlife; arts and crafts; and indigenous heritage.

Putting heritage to work

Community heritage project reports and inventories published for the comprehensive regional assessments are not mouldering on library shelves.

In many RFA regions throughout Australia, communities are putting the information to practical use for projects ranging from recreation and tourism to historical research.

In Victoria, local governments and agencies such as the Parks Service are already using assessment reports in their heritage work.

East Gippsland Council has started a heritage network of local individuals and groups throughout the region and the workshop data is a major source of information for them. With the support of councils, the network is creating a heritage database to make this information accessible and form the basis of a community heritage plan.

Forest regions in NSW are also considering how communities can best use the cultural heritage data in local government planning.

The Alps Liaison Committee, which involves the Parks services of Victoria, NSW and the ACT, has been using the information to set up their database of heritage sites. Many small tourism operators have used the data. In Victoria, for example, a horse riding business takes rides through the historic mining and hydro electricity sites of the Rubicon Valley.

In South East Queensland, the heritage assessment produced a library of 10,000 photographs and 100 oral history tapes to add to the annals of forest history.

In some regions, participating in the community heritage projects helped spur researchers and communities into action. For example, some of the cattle trails across the Alps were later researched and documented by a community member, while people from the Tubbut community who attended the Bonang workshop later applied for a grant to upgrade the Swing Bridge, which was constructed to move cattle across a river.





Mineral resource data made more credible

"There are always things you might do differently and want to happen differently but, at the end of the day, the Regional Forest Agreement outcomes to date have been acceptable," said Mr Kim Wright, a consultant to the NSW Minerals Council.

"There are one or two areas that we are looking at, but these are things requiring clarification," he said.

Work leading up to the finalisation of the RFAs included assessing known and potential mineral resources. Commonwealth and State mineral resource agencies and peak bodies, including the NSW Minerals Council, took part.

The process developed and applied a consistent geographic information systems (GIS)-based mineral resource assessment methodology, and assembled and assessed mineral resource data in a GIS format for each RFA region.

"The process was a huge advance on what has gone on before and I would like to see more of it," Mr Wright said. "It has some real data, which makes it far more credible.

The assessments highlighted areas of high mineral potential in the RFA regions where undiscovered mineral deposits might be present. One outcome was the integration of

mineral resource values with other values in the land-use decisions in forest regions.

"For any areas outside reserves, it's business as usual," Mr Wright said. "Within the known reserve types, there are certain additional constraints, which have to be managed. It depends on the economics as to whether you want to do something about known potential.

"You know what the rules are. You know where to look. It's up to you to decide what to do. It has provided certainty," he said.

Mr Wright said he did not believe significant areas having potential for discovery of mineral deposits of national importance had been unduly affected.

"You can still explore and look for everything from construction materials to coal-based minerals," he said. "Forests in some of the RFA regions contain a significant part of New South Wales' mineral wealth and potential, particularly for energy, like coal. Base metals and gold less so but these are important in the Southern RFA (which has not been signed)."

The Western Australian Chamber of Minerals and Energy said that the geological survey had done a very good job, given the time frame, on identifying prospective areas and engaging stakeholders.

Beekeepers "recognised"

Professional beekeepers in New South Wales consider the RFA process has given the industry more recognition than it had before the State's two RFAs were signed, according to Mr Greg Roberts, resource officer for the NSW Apiarists' Association.

"We are very happy with the beekeeping policies that have come out of the RFAs,"

said Mr Roberts, who is a third-generation beekeeper. "We did not ask for new sites to be created as long as the existing sites remained for the industry to be viable."

All beekeepers in the State have to be registered with the NSW Department of Agriculture.

"National park policy, up to the time of the RFAs, provided 'sunset' clauses on sites," Mr Roberts said. "This meant beekeepers had licences until they died and then the sites were lost.

"We had lost about 40 per cent of our resources by the beginning of the RFA process. Now the national park policy is changed and the licences are fully transferable," he said.

Assessments of the beekeeping industry's contribution to regional economies were made across all RFA regions.

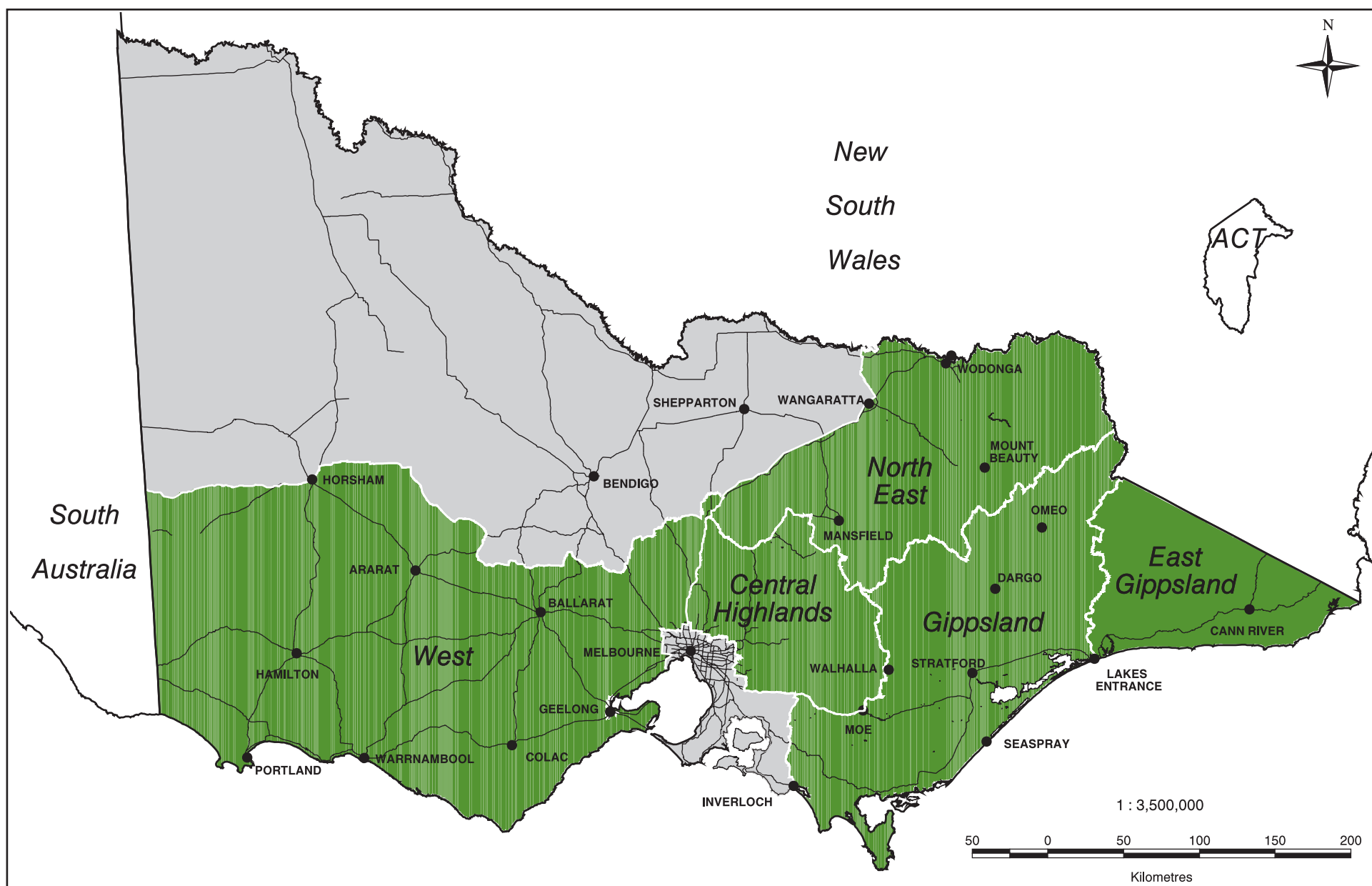
NSW's annual honey production—valued by Mr Roberts at about \$30 million—represents 45 per cent of Australia's total output. About 80 per cent of honey produced in NSW comes from native flora, with sites located in 6 million hectares of national parks and 2 million hectares of State forests.

More than 40 per cent of the State's honey comes from the North East and Eden RFA regions.

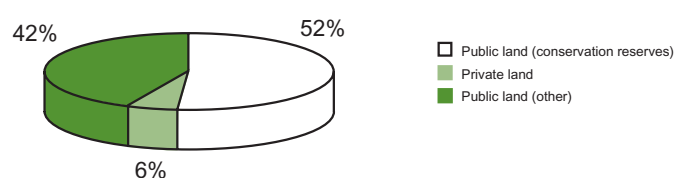
But the true value of the industry lay in the pollination side which was worth more than \$346 million a year, Mr Roberts said. Beekeepers moved their hives six times a year on average for pollination purposes.



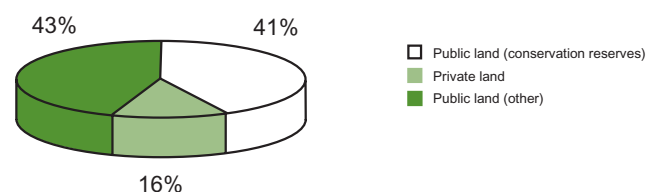
Victoria



Native ecosystems by land tenure: East Gippsland



Native ecosystems by land tenure: Central Highlands



Victoria has five Regional Forest Agreements, covering more than 13 million hectares of the State.

The first RFA—for the East Gippsland region—was signed on 3 February 1997.

Since then, RFAs have been completed for the Central Highlands (27 March 1998), North East (23 August 1999) and the West and Gippsland regions (31 March 2000).

Victoria's CAR reserve system

Victoria's Comprehensive, Adequate and Representative (CAR) Reserve System covers about 2.86 million hectares. This represents

more than 50 per cent of the total public land across the five regions.

Overall, the RFAs have increased reserves by more than 38 per cent.

The first comprehensive assessment of old growth in Victoria identified 1.08 million hectares of old-growth forest. Under the RFAs, 68 per cent of this is protected in reserves—an increase of 37 per cent.

Flora and fauna

The RFA process involved the most thorough surveys ever undertaken of flora and fauna in the State, including the first comprehensive,

detailed vegetation mapping of forests across the State.

All Victoria's endangered fauna species are protected either in reserves or through recovery plans and action statements, including Leadbeater's possum, the baw baw frog, the powerful and sooty owls, the spot-tailed quoll, the long-footed potoroo and the spotted tree frog.

Industry

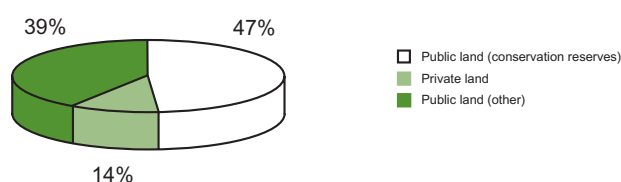
Victoria's timber industry had already undergone significant restructuring when the RFA process began.

A joint Commonwealth-State Victorian Hardwood Timber Industry Development and Restructuring Program (VicFISAP) of \$42.6 million will help businesses take advantage of RFA certainty and adjust to changes in resource availability.

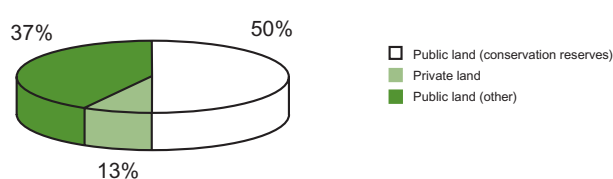
Timbers

Victorian hardwoods are being repositioned into value-added niche markets in Australia and overseas. Popular species include alpine ash, mountain ash, messmate, red gum and shining gum.

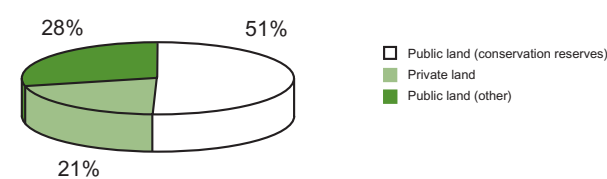
Native ecosystems by land tenure: North East



Native ecosystems by land tenure: Gippsland



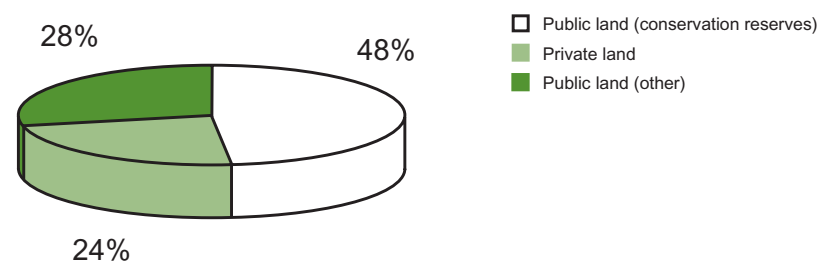
Native ecosystems by land tenure: West



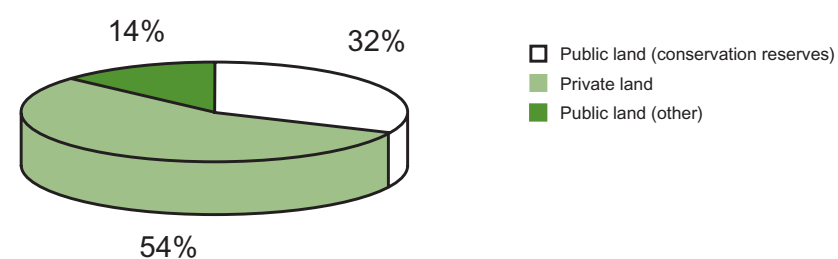
New South Wales



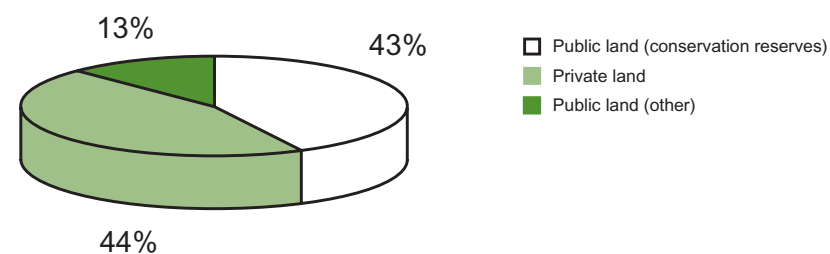
Native ecosystems by land tenure: Eden



Native ecosystems by land tenure: Upper North East NSW



Native ecosystems by land tenure: Lower North East NSW



New South Wales has two Regional Forest Agreements, covering 10.6 million hectares of the State.

The first RFA was for the Eden region on 26 August 1999, followed by the RFA for North East NSW (Upper and Lower) on 31 March 2000. The Upper and Lower North East regions were studied separately for the comprehensive regional assessment, but they are covered by one agreement.

A comprehensive regional assessment was completed for the Southern region of NSW but, to date, a Regional Forest Agreement between the Commonwealth and the State government has not been reached.

Reserves

The Eden and North East RFAs established a CAR reserve system in the regions of about 2.3 million hectares, covering 63 per cent and 74

per cent, respectively, of the regions' total public land.

Old growth

The first comprehensive assessment of old growth in NSW identified more than 1.78 million hectares of old-growth forest in the Eden and North East RFA regions, most of which (nearly 1.2 million hectares) is on public land.

In the Eden region, more than 86 per cent of old growth on public land is protected in reserves. In the North East region, more than 92 per cent of old growth on public land is protected in reserves. Additional protection of old growth on public land in the regions is provided through off-reserve forest management prescriptions.

Biodiversity

The most thorough surveys ever undertaken of flora and fauna in CRA regions included the first

comprehensive, detailed vegetation mapping of forests across the State.

In Eden, more than 150 threatened and/or forest-dependent flora and 55 fauna species were assessed, including the greater glider, the long footed potoroo and the stuttering barred frog.

More than 100 threatened and/or forest-dependent species of plants and 144 animal species were assessed in the Upper and Lower North East regions. Animals included the barking owl, masked owl, southern barred frog, squirrel glider and yellow bellied glider. Plants included the hairy quandong (UNE) and a species of green hood orchid (LNE). These are protected in reserves and through prescriptions. For example, the RFA has helped protect the long footed potoroo by including almost all its known habitat within dedicated reserves.

Industry

The Eden and North East RFA regions make a major contribution to the State's economy.

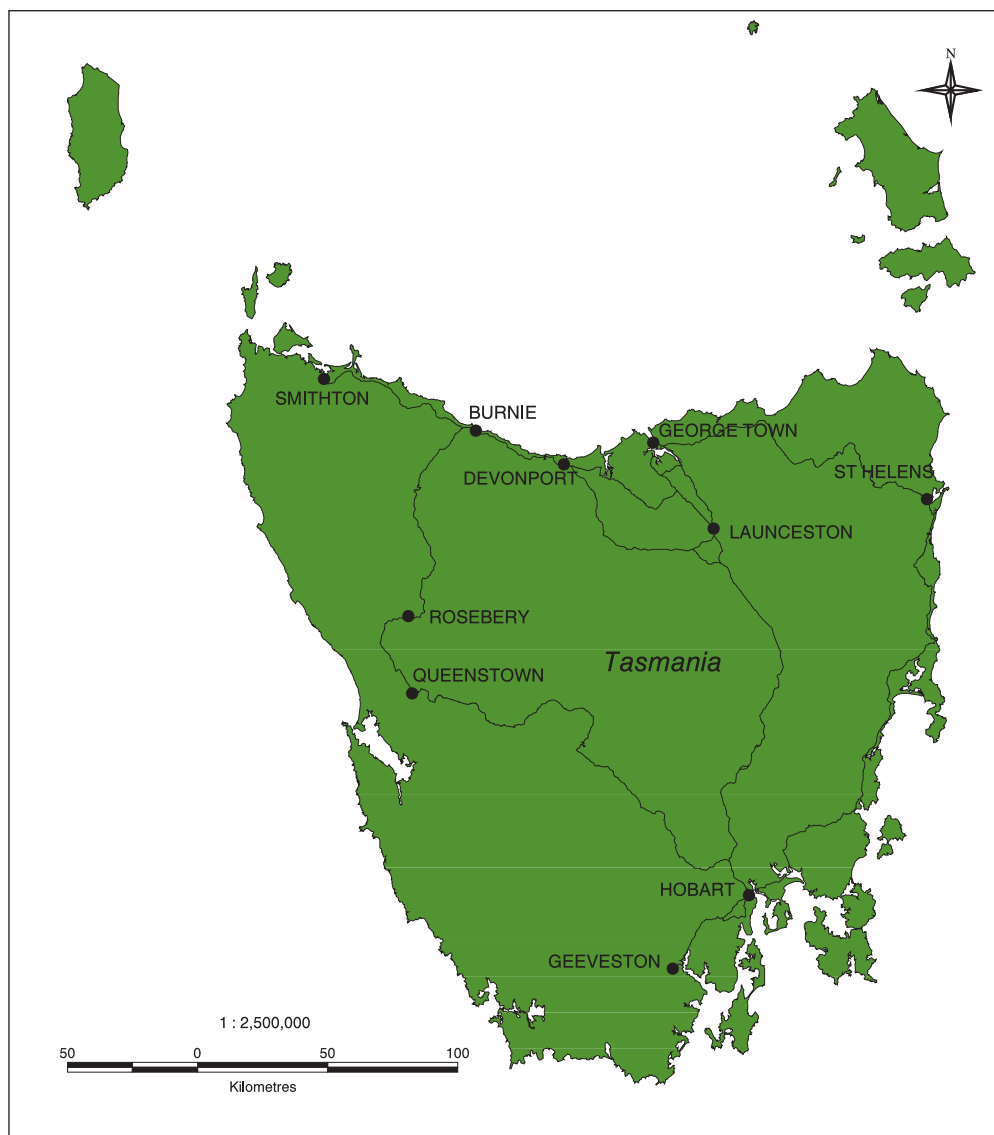
In the North East, the RFA provides certainty for the region's \$256 million native forest timber industry, which produces about 80 per cent of the State's hardwood. Timber supplies will be maintained at 1999-contracted levels for 20 years.

The Eden RFA is helping the region's \$65 million native hardwood industry attract investment in value-adding facilities, explore new markets and create jobs in a range of new initiatives including a recovery sawmill.

Timber species

Popular timber species in the North East include Sydney blue gum (a fast-growing plantation timber), blackbutt, box-brush, mountain gum, spotted gum, grey ironbark and tallowwood. The Eden region produces silvertop ash, stringybark, monkey gum and messmate.

Tasmania



The Regional Forest Agreement for Tasmania, signed on 8 November 1997, covers the State's 6.8 million hectares.

It increased the existing conservation reserve system by 19 per cent (more than 442 000 hectares), bringing the total reserve system to 2.75 million hectares—more than 40 per cent of Tasmania and 68 per cent of its public land.

With 29 new parks or State reserves, the RFA met the reserve criteria as far as is practicable on public land, with nearly 95 per cent of wilderness in reserves.

Through funding under the Commonwealth's Natural Heritage Trust, the RFA established a voluntary program to protect conservation values on private land.

Old growth

About 1.25 million hectares of old growth was identified in Tasmania. Most of it—1.13 million hectares—is on public land.

The RFA added 166 700 hectares of old growth to reserves, bringing the overall level of protection to more than 68 per cent.

Biodiversity

The 170 species of flora and 59 species of fauna identified as priority species for protection in Tasmania are protected through management of the CAR reserve system or by applying relevant management prescriptions.

The RFA has accelerated recovery plans for a number of species such as the Swift parrot and the giant freshwater lobster.

Industry

Tasmania's \$1 billion forest products industry is the State's second largest employer.

The RFA laid the foundation for the creation of 550 jobs in plantations, intensive forest management and infrastructure development, and was accompanied by a Commonwealth funding package of \$110 million to help develop exports and value adding.

Unique timbers

Tasmanian oak (*Eucalyptus delegatensis*, *Eucalyptus obliqua* and *Eucalyptus regnans*), blackwood and myrtle are readily available from managed forests and are popular for furniture, parquetry and veneer.

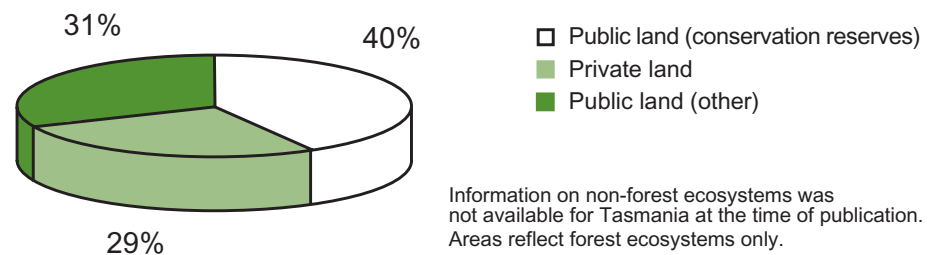
Only limited supplies of the slow-growing celery top and about 500 cubic metres of huon pine per year—most of it salvaged from rivers and the forest floor—are available to the timber industry.

Milestones

By late 1999, Tasmania had met a number of the milestones agreed to in the RFA.

They included the development of a set of draft indicators for measuring sustainability; the development and implementation of strategies for protecting threatened species; for Tasmanian biodiversity; and for setting new standards for water quality.

Native ecosystems by land tenure: Tasmania



Private Forest Reserve Program

Tasmanian landowners are showing increasing interest in the State's Private Forest Reserve Program.

The Commonwealth Government provided \$30 million to fund the program, launched as part of Tasmania's Regional Forest Agreement.

The aim is to protect 100 000 ha of native forests that are the highest priority for conservation. The program achieves this by increasing reservation of privately owned bushland through voluntary agreements between landowners and the State Government, or through land purchases.

The program's manager, Dr Steven Smith, said that, so far, more than 5000 ha of privately

owned land had either been bought or had had conservation covenants placed on titles.

He said that each landowner negotiated individual management agreements. The conservation covenants did not lock up the areas, but ensured suitable management of the forests to retain their conservation values.

Activities such as grazing and firewood collection might be allowed, provided they were compatible with the management objectives. The type of forest being protected and the threats to it would determine this.

Dr Smith said he expected up to 300 landholders would take advantage of the Private Forest Reserve Program. They had until July 2002 to apply.

Tasmanian jobs growth

A forestry growth plan developed from Tasmania's RFA has already created more than 300 jobs in the State's expanding public plantation sector.

The plan's 20-year expansion program was developed because of the certainty and stability provided by the RFA, which was signed in late 1997.

It aims to boost harvests and sales, expand plantations and thinning, establish merchandising facilities, improve safety and environmental practices, and develop new technology and downstream processing industries.

The plan involves the Tasmanian Government, private growers, Forestry Tasmania and industry partners.

A \$67 million funding injection from the RFA financed the development of intensive forest management programs to improve yield and performance. The establishment of plantations and thinning of native forest regrowth will achieve these outcomes. However, the ultimate goal is world-scale forest resource and new downstream processing industries.

Forestry Tasmania's general manager of forest management, Dr Hans Drielsma, estimates the expanding public plantation sector has created more than 300 jobs so far. The figure

does not include jobs resulting from private-sector expansion by individual firms, especially private plantation sub-contractors.

Under the plan, Forestry Tasmania has to establish 7500 hectares of mainly eucalypt plantations each year, and has let contracts worth \$30 million over three years for site preparation, planting, fertilising and pruning works.

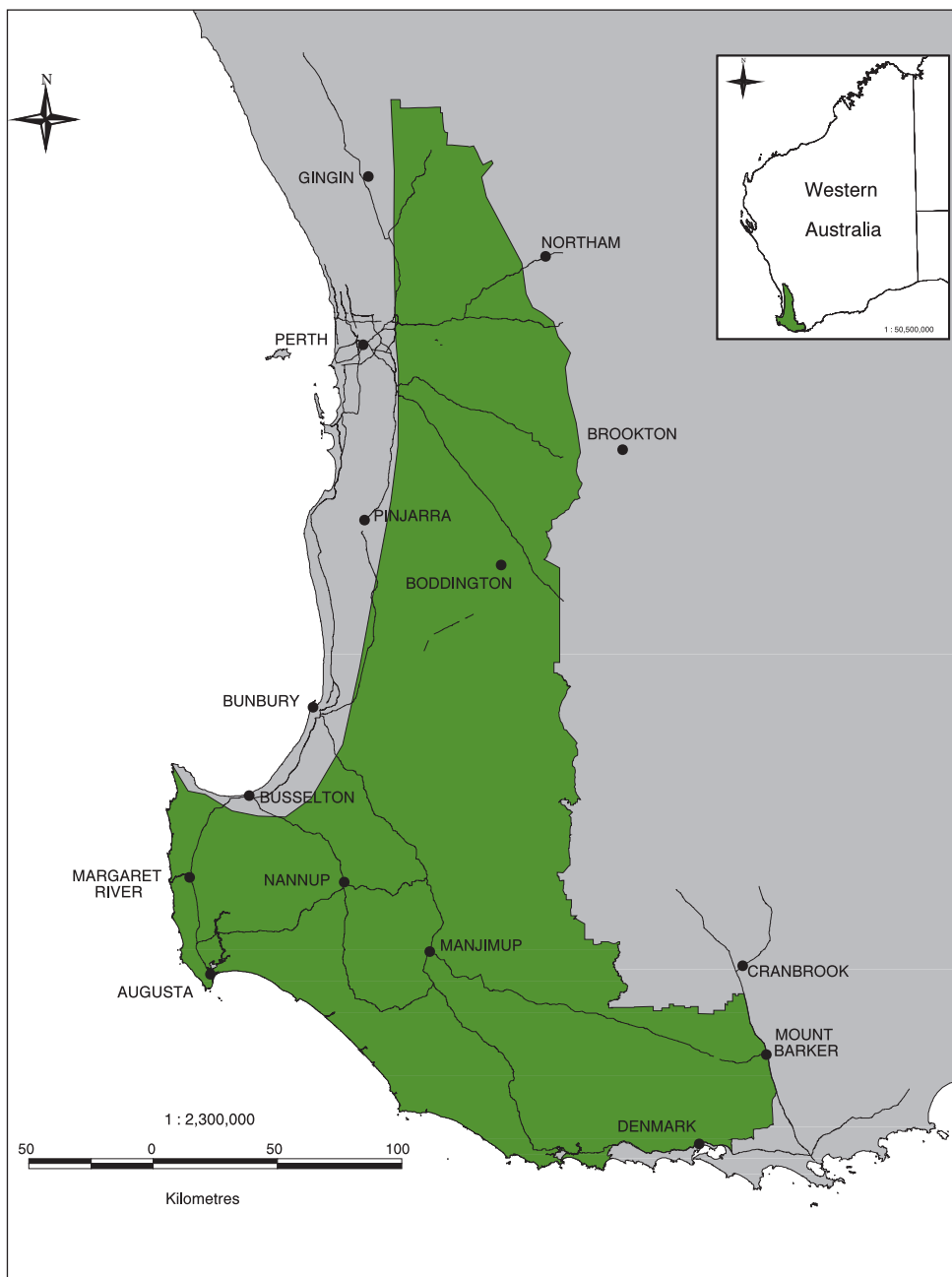
It is also undertaking a joint feasibility study with Frenchpine into the establishment of a merchandiser/flitch mill in north east Tasmania.

The Perth Forest Nursery in the State's north, which can produce up to 12 million seedlings a year, has let contracts to two northern Tasmanian nurseries for 1.5 million eucalypt and 1 million pine seedlings.

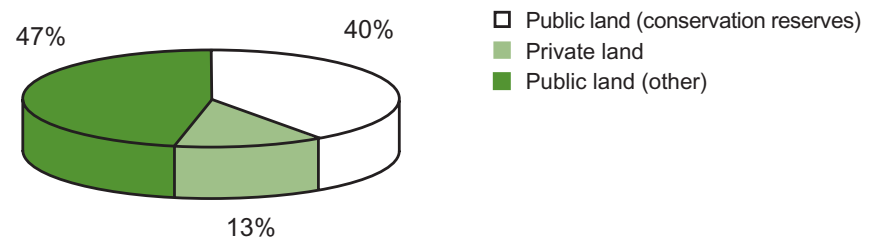
Forestry Tasmania, with North Forest Products, has completed an initial study into the biomass potential of the State's north west forests. The study is part of an assessment of potential for co-generating steam and energy from forest biomass, and integrating the energy with flitch and processing mills.

Dr Drielsma said the growth plan would take forestry and forest-based industry in Tasmania to a world-competitive level in resources, harvesting, transport and processing.

Western Australia



Native ecosystems by land tenure: SW Western Australia



The Regional Forest Agreement for the South West forest region of Western Australia was signed on 4 May 1999. It covers 4.526 million hectares of the State.

Reserves

The RFA resulted in a net increase to reserves of more than 114 000 hectares, bringing the total area of conservation reserves in the region to more than 1 047 000 hectares—an increase of 12 per cent.

It created 12 new national parks and made 25 additions to existing national parks.

Old growth

Of the 347 000 hectares of old growth in the South-West forest region the RFA protected more than 232 800 hectares in formal reserves, an increase of nearly 48 000 hectares.

This brought the level of overall old-growth protection to 67 per cent.

In ecosystems where old growth is rare or depleted, 100 per cent has been reserved on public land where possible.

Biodiversity

Reserves include “hotspots” for endemic species, plant species richness and species important because of evolutionary biology.

They include areas along the Blackwood River valley, the Leeuwin-Naturaliste ridge, the forests between the Frankland and Hay Rivers, and areas east of Perth on the Darling scarp.

Industry

A \$41.5 million timber package included low-cost loans to install value-adding equipment and new technology, expand local manufacturing and provide assistance with marketing, as well as money for redundancy packages and for business exit and contract buy-back support.

Tourism

A \$17.5 million tourism package included three new forest eco-lodges, camping and chalet sites, a scenic drive around Pemberton, tourism roads near Nannup, and recreation and tourism facilities at Wellington Dam.

Endangered species

Recovery planning for 58 species of threatened flora and 12 species of threatened fauna is underway. Some reserves incorporate populations of the rare sunset frog, orange-bellied frog and white-bellied frog.

Common timber species

WA is famed for its beautiful and highly durable species of jarrah, karri and marri.

More than 60 per cent of jarrah is now value added for high-quality products, including outdoor and indoor furniture and floorboards.

Karri is also proving suitable for high value furniture and the gum veins that previously made marri difficult to market are increasingly seen as an attraction.

Queensland

The comprehensive regional assessment for South East Queensland was completed in March 1999. However, a Regional Forest Agreement between the Commonwealth and the State governments had not been reached by mid-2000.

About half of the 6.1 million hectare region is forested. Stretching from the NSW border north to Gladstone, and west to Toowoomba, the region is home to nearly 2.5 million people.

Biodiversity

The assessment identified 142 regional ecosystems, of which 52 are eucalyptus forest, 31 are eucalyptus woodland, 20 are non-eucalyptus and woodland, 26 are rainforest and vine thicket, and 13 are non-forest.

Ten regional ecosystems are endangered, 17 are rare and 43 are vulnerable. Overall, the region has lost about 56 per cent of the natural vegetation cover since European arrival.

The land-based fauna survey was the biggest ever conducted in southern Queensland covering 267 sites in 36 forest areas. It recorded 36 species of frogs and other amphibians, 92 species of reptiles, 306 bird species, 19 species of small ground-dwelling mammals, 11 species of kangaroos or wallabies, three predator species, four ungulate (hoofed) species, 10 tree-dwelling mammal species and 32 species of bats.

Old growth

The old-growth assessment found that 301 526 hectares of the region's forest (about 8.5 per cent) is old growth or “likely” old growth. At the time of the study, nearly 40 per cent of this area was within conservation reserves, with another 16 per cent within State forests.

Timber industry

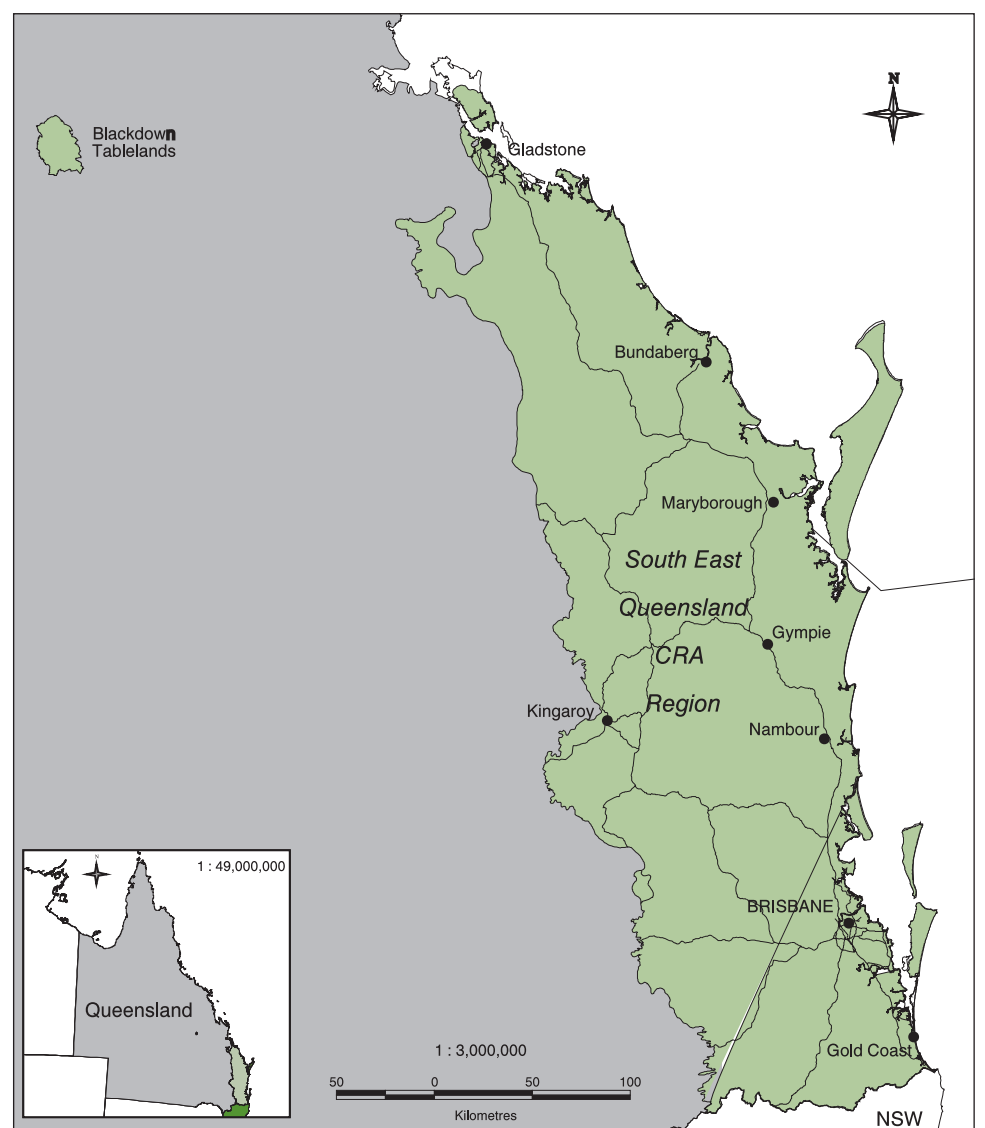
The region is the State's premier timber industry, contributing 75 per cent of the sawlog volume processed in Queensland. The region's timber comes from public and privately owned native forests; plantations in State forests (160 000 hectares of softwood, 1200 hectares of hardwood) and plantations on private land (about 12 000 hectares of softwood). Popular Queensland timbers include blackbutt, spotted gum and Gympie messmate.

Tourism and other industries

Tourism is a major growth industry, with visitor days in forests predicted to increase by 57 per cent by 2021.

Other significant industries are grazing, with more than 43 000 beef cattle grazed in forests each year, and beekeeping, with State forests and timber reserves providing more than 40 per cent of the region's honey production.

Nineteen mines in the forested areas produced coal, gold, sand, magnetite and other industrial minerals worth \$199.2 million in 1996–97.



RFA process slips into second gear

The task of negotiating Regional Forest Agreements is largely complete, but this doesn't mean the job is over. A long and, at times, complex implementation phase is underway and will continue for some years.

The Commonwealth Government sees the completion of the RFA process as marking a reinforcement of the primary responsibility the States and Territories hold in domestic forest management.

The Commonwealth will focus on reinforcing its responsibilities for national monitoring and reporting.

It will use Australia's forest policy achievements to enhance the country's standing and influence in international forest forums and ensure Australian forest management achieves agreed international standards.

"Montreal Indicators"

Australia, for instance, played a major role in the Montreal Process, which produced the "Montreal Indicators"—internationally accepted criteria and indicators for measuring the sustainability of forest management.

During the next few years, the Commonwealth will cooperate with State and Territory governments to implement the indicators at a regional level.

Much of the task of putting the RFAs into practice lies with State governments, although the Commonwealth has a number of commitments under the agreements.



Members of the RFA Monitoring Unit discuss aspects of the implementation and monitoring program. They are, from left, Mr Doug Pittard, Mr Rod Channon, Mr Michael O'Loughlin and Ms Kathryn Allen. Photo: Troy Agombar.

The Commonwealth's commitments include:

- removing export controls on unprocessed wood from RFA regions and on exports of much plantation-sourced material;
- deeming the requirements of some Commonwealth environmental legislation to have been met by RFAs;
- continuing to work with States on nationally threatened species and communities;
- assisting forest industries financially to help them improve and achieve their potential; and
- completing with States listing of the national estate areas according to the policy agreed in the RFAs.

Each RFA provides for annual reporting by each of the parties against their RFA commitments and obligations. The Minister for Forestry and Conservation, Mr Wilson Tuckey, will table the reports in Federal Parliament.

Reviews

A review will be undertaken of each RFA every five years to determine outcomes that have been achieved.

The Montreal Indicators will make a major contribution to this process by providing a means to measure outcomes.

As part of this, the Commonwealth and the States, in consultation with the community, will determine the indicators that are most relevant to each RFA.

The process has already been used to determine sustainability indicators for the Tasmanian RFA.

RFA Monitoring Unit

The Commonwealth has established a Monitoring Unit to administer its part of the RFA monitoring process.

The unit, located in Agriculture, Fisheries and Forestry—Australia in Canberra, is headed by Mr Michael O'Loughlin and comprises people with extensive experience in the RFA process.

Mr O'Loughlin said that transparency, accountability and effective communication would be vital in implementing and monitoring RFAs.

"It's crucial that people know what's going on and what the RFAs are achieving," he said. "It's also important that people be able to distinguish fact from fiction when it comes to the way we manage our forests."

Mr O'Loughlin said that, to help this happen, the unit would place a lot of emphasis on communication and consultation.

"An important part of this is the RFA Website at www.rfa.gov.au," he said. "We'll also be looking at other ways we can pass on information, and of course we will be consulting with the community during each five yearly review process."

The unit has completed the first of its annual reports for Victorian and Tasmanian RFAs.

The first of its five yearly reviews is due in the first half of 2002.

The table below contains details of the unit's program for reports and reviews.

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Regional Forest Agreement reports and reviews

RFA	Date signed	First annual report	Second annual report	Third annual report	Fourth annual report	Five yearly review
East Gippsland*	3 February 1997	Completed	Completed	May 2000	May 2001	April 2002
Tasmania	8 November 1997	Completed	Completed	December 2000	December 2001	December 2002
Victoria Central Highlands*	27 March 1998	Completed	May 2000	May 2001	N/a	April 2002
Western Australia	4 May 1999	May 2000	May 2001	May 2002	May 2003	June 2004
North-East Victoria*	23 August 1999	May 2000	May 2001	May 2002	May 2003	September 2004
Eden	26 August 1999	August 2000	August 2001	August 2002	August 2003	October 2004
North-East NSW	31 March 2000	March 2001	March 2002	March 2003	March 2004	April 2005
Gippsland*	31 March 2000	March 2001	March 2002	March 2003	March 2004	April 2005
Western Victoria*	31 March 2000	March 2001	March 2002	March 2003	March 2004	April 2005

* As of 2000, the reports for the East Gippsland, Central Highlands and North-East Victoria regions will be combined into one Victorian report. The first reports for Gippsland and West Victoria will be included in this amalgamation in 2001.

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