

Forests' role in greenhouse reduction

Assessing fire impacts on young eucalypts

Sounding out wood quality

World's first carbon credit trades from forests



contents

forest log

- 3 Hyne's Tumbarumba mill now largest in southern hemisphere
- 3 Promoting forest recreation benefits all
- 4 235 teams take mountain bike challenge
- 4 'Starlight' not one from a mould
- 5 Horses at work in pine plantations
- 5 4WD club helps clean up forests
- 6 Multilingual sign for mushroomers
- 6 Harvesting equipment investment brings benefits
- 7 Certification close for Forests NSW
- 7 Heath frogs move into repaired dam
- 8 Supply agreements see higher-value products from low quality logs
- 8 Timber bridges pass the test of time

features

- 9 Carbon storage in forests
- 10 Carbon trading – Forests NSW leading the way
- 12 Fire and the life of young eucalypts
- 13 Tapping into sound technology
- 14 Softwoods on a roll in the south west
- 15 Uncovering furry, feathered and flighty forest dwellers

forest school

- 16 Activity sheet: What do you do? Forest ecologist
- 18 Urban forest and ecology focus for university students
- 18 From boardroom to bush

what's happening?

- 19 June – August 2005 events
- 19 Leaders in tree improvement to gather in Grafton
- 19 International forestry conference in August

from the chief executive

The sale of greenhouse gas abatement certificates – representing the carbon stored in 10,000 hectares of Forests NSW young hardwood plantations – is a significant milestone for the organisation and underscores the growing significance of forests for combating global warming.

The sale is the first of its kind in the world, and is the culmination of almost eight years of work for Forests NSW researchers, carbon accounting analysts, foresters and management in a variety of carbon-related spheres.

In February this year, Forests NSW was fully accredited as an abatement certificate provider under the New South Wales Greenhouse Gas Abatement Scheme. We have since registered 166,005 certificates, each equivalent to one tonne of carbon dioxide sequestered.

The first batch of Forests NSW certificates has been purchased for more than \$1 million by EnergyAustralia to help offset the greenhouse gases released into the atmosphere as a result of electricity use in NSW. It's a major step in efforts to address climate change.

The sale also confirms that there is a market for tradeable carbon certificates from forests and this should also provide real incentives for large scale corporate investment in new plantations. Each planting brings with it a suite of environmental and social benefits to the people of the State.

You can read about Forests NSW latest steps in carbon trading on page 10 of this issue, while the illustrations on page 9 give an overview of the role trees play in sequestering carbon.

I hope you enjoy this issue of *Bush Telegraph*.



Peter Duncan
Peter Duncan
Chief Executive



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www.forest.nsw.gov.au or www.dpi.nsw.gov.au



Cover photograph Carbon storage in forests is part of a natural cycle. The stomata of a leaf plays a vital role in this process. See page 9 for story.

Photo by David Barnes/Forests NSW Image Library

Hyne's Tumbarumba mill now largest in southern hemisphere

Hyne Timber's recent upgrade of its Tumbarumba sawmill means the facility is now the largest of its kind in the southern hemisphere.

The mill supports more than 350 local jobs and contributes an estimated \$30 million to the New South Wales economy.

It has the capacity to output enough pine timber to build in excess of 20,000 new homes.

The NSW Minister for Primary Industries Ian Macdonald, who opened the refurbished sawmill in April, said it was another feather in the cap of an already vibrant timber processing industry in the region.

Hyne Timber has invested some \$110 million during the past three years in state-of-the-art upgrades to the mill.

The refurbishments have doubled the overall size of the mill and enabled Hyne Timber to produce quality, low-cost structural timber for housing.

Mr Macdonald said the State Government had played a crucial role in supporting Hyne Timber.



In 2001, the State Government and Hyne Timber entered a 20-year supply agreement, valued at an estimated \$445 million.

Under the agreement, Forests NSW will harvest and deliver up to 350,000 cubic metres of sawlog each year over the next two decades.

– Sarah Chester Public Affairs & Media, Albury

Construction, Forestry, Mining & Energy Union (CFMEU) site delegates with Minister Ian Macdonald at the Hyne Tumbarumba mill opening. The CFMEU welcomed the investment into the mill, saying it would provide long-term security for the local community.



Goals of Forests NSW recreational strategy include:

- Develop and promote partnerships with recreation, tourism and other groups.
- Long-term and safe access to both native forests and softwood plantation areas, which are essential for group activities and organised events.
- More consistent fees and administration for events and organised groups.
- Improve public access to information on State forest recreation, including on the internet.

Promoting forest recreation benefits all

Come and enjoy the great outdoors with a get-away to one of the 700 State forests across New South Wales.

That is the message from NSW Minister for Primary Industries, Ian Macdonald, who said State-operated forests provide the perfect setting for fitness, fun and families.

"From mountain biking to camping, bushwalking or hitting the four-wheel drive tracks, our State forests offer something for everyone," Mr Macdonald said.

"And best of all, access for individuals, families and small groups is free."

To encourage people to get out and enjoy the great outdoors, Forests NSW has published a series of new recreation brochures, packed with ideas for safe, fun activities.

"Some 20,000 *Recreation in State forests* brochures are now available at Forests NSW regional offices, as well as visitor information centres.

"Forest NSW hosts a number of key sporting events including the 2005 Polaris Mountain Bike Challenge, held on the mid north coast in March, and the Tumut cross country mountain bike event in May.

"Last year, there were 275 organised events held in State forests. Each provided an economic boost to regional communities and helped encourage tourism."

To help ensure forests continue to deliver the types of activities and services communities want, the State Government has developed a long-term recreational strategy for State forests, called 'Living, working, playing ... forests'.

"The goal is to encourage safe and responsible use of our State forests, and to make sure people have access to a host of recreation, sport, tourism and training activities well into the future," Mr Macdonald said.

Copies of all Forests NSW recreational guides are available on-line at www.forest.nsw.gov.au/recreation or by telephoning 1300 655 687.

– Howard Spencer Public Affairs & Media, Coffs Harbour

235 teams take on mountain bike challenge

The State forests of the mid north coast have left an impression on the backsides and leg muscles of more than 500 of the best mountain bikers to be found in Australia in the annual Polaris Mountain Bike Challenge.

The native State forests near Comboyne were the hosts for the event on March 12-13 this year, making a change from the spotted gum forests and pine plantations in the south of recent years.

"The Polaris is much more than a mountain bike event, more than a competition for glory," said organiser Huw Kingsston. "It's a chance to show off a new and stunning part of the country each year, it's about putting something into the communities that host us and it's about stories told over a cold one at the overnight camp."

"We moved north this year and the 'can do' attitude of the local people, the local councils and the local tourism bodies made it all so much easier."

As did the help of the event's major sponsor, Forests NSW. The overnight camp was at one of the State's premier bush camping areas, Swans Crossing, in Kerewong State Forest south west of Port Macquarie.

"A total of 235 teams entered this year's event and came from all States and Territories plus a couple from overseas," Huw said.

"The overwhelming response to the event area was a great appreciation of its scenic nature, hilly terrain, the warm sun and a desire to get back there and see some more."

Paul Meek and Adrian Thompson from Forests NSW won The Laurel Hill Trophy, awarded to the best performing team from the organisation. The overall event winners were Sydney-based team David Cottee and Toby Cogley.

– **Howard Spencer** Public Affairs & Media, Coffs Harbour

Competitors take on the challenge of the 2005 Polaris Mountain Bike Challenge staged in State forests near Comboyne on the mid north coast. *Photo by Paul Meek*



'Starlight' not one from a mould

Moored off a wharf on Lake Macquarie on the central coast of New South Wales, the trawler 'Starlight' looks like a serious fishing vessel.

With a hull constructed of south coast spotted gum, owner and vice president of the Wooden Boat Association of NSW, Dick Branson, has enjoyed 15 years of cruising and fishing on the 'Starlight', and he expects many more years of enjoyment yet on his boat.

"Credit for 'Starlight' really belongs to master shipwright Mick Nesbitt, who built her over two years at Taren Point in Sydney," Dick said. "Mick built 30 strong, timber trawlers between 1950 and 1990, which were used off the coast between Ballina and Eden."

Dick said that when Mick started building boats, timber was the only material available, and that he laments the loss of skills that have resulted from mass-produced moulded vessels.

"I'm pretty passionate about timber boats," Dick says. "You can build character and warmth into them, they are unique and don't come out of a mould."

Dick is not alone in his passion. He had brought his trawler to Lake Macquarie as part of a heritage boat festival, attracting 60 boats of various shapes and sizes.

"Turpentine, ironbark, spotted gum and blackbutt are all NSW native timbers used in building and restoring a wide range of boats," Dick said.

From 60-foot yachts to small dinghies and putt-putt boats, the diversity of timber boats is astounding.

Dick said that today timber boat building was a boutique industry, with most boats being produced by enthusiasts rather than being commercially built.

"I recently helped a mate finish off his boat – some 15,000 man hours went into its construction. You just can't buy a boat like that," he said.

– **Leah Flint**

Communications, Maitland

Top: Dick Branson aboard his trawler 'Starlight'. The boat's hull is constructed from south coast spotted gum timbers.

Right: A picture of shipbuilder Mick Nesbitt is a reminder of his part in the construction of the 'Starlight' and 20 other trawlers. *Photos by Alex Flint*



Horses at work in pine plantations

Horses are being used to map areas of pine plantation that have proved too steep for quad bikes and too onerous for those on foot.

Forests NSW supervisor at Tumut, Gordon Goldspink, said it didn't take many steep hills to decide that a horse could do the job more efficiently, so he called on fellow employee and horseman, Andy Hawkins.

Before long, Andy, with a Global Positioning System

unit and a palmtop computer, was traversing the slopes on horseback.

"I have not heard of horses being used anywhere else in this sort of work and we have been pleased with how well it has gone," Gordon said.

He attributes the success to Andy's riding skills and his excellent horses – Smiley and Laurel.

Smiley, a quarter horse Clydesdale cross, has a long-time connection with

the timber industry, as he is the grandson of a mare that pulled logs out of Mannus State Forest.

Laurel is a brumby from nearby Laurel Hill and has spent much of her life in the hills moving across steep and rocky terrain.

Both horses have a vested interest in getting the job right – they each receive a bag of chaff a day for their efforts.

– **Sarah Chester** Public Affairs & Media, Albury

Andy Hawkins with Laurel helping prepare for the planting of around 120 hectares of a joint venture plantation at 'Minimbah', not far from Wagga Wagga.

Photo by Sarah Chester



4WD club helps clean up forests

Canobolas 4WD Club and Forests NSW joined forces on 'Clean Up Australia Day' in March to remove car bodies left in State forests around Orange.

Forests NSW Macquarie Region forest assistant, Rob Finlay, said the aim on the day was to remove approximately 36 car bodies from Canobolas and Kinross State Forests.

"It's a huge task to get them out and we greatly appreciate the club's help," Rob said.

"People dumping cars in State forests is a big problem. Not only are they unsightly, but they also pose a fire risk to the valuable publicly-owned plantations in the area, as dumpers often set fire to the cars."

Canobolas 4WD Club publicity officer, Warren Brown, said club members used a

winch to retrieve one car from the bottom of a steep embankment.

"We are very lucky to be able to drive our four-wheel drives in State forests and cleaning up the forests is a sign of our appreciation," he said.

"We also extend an offer to Forests NSW to assist in any future clean-ups of the forests surrounding Orange."

The club removed seven car bodies, two cut-up car bodies, various car parts, plus cans, bottles and other small items of rubbish dumped in Canobolas State Forest.

Forests NSW removed about 24 cars from Kinross State Forest using a backhoe and used two trucks to pick up car bodies and other rubbish in the forest.

– **Sarah Chester** Public Affairs & Media, Albury

Members of the Canobolas 4WD Club removing a car from Canobolas State Forest. *Photo by Warren Brown*



Multilingual sign for mushroomers

Forests NSW pine forests on the western edge of the Great Dividing Range provide perfect mushroom growing conditions – cool, moist and largely undisturbed.

As a result, collectors of wild mushrooms have become an increasingly common sight in Autumn in the pine forests near Oberon in the central west.

For safety reasons, Forests NSW is keen to make sure that these collectors do not stray into areas where timber harvesting is taking place.

“When harvesting is under way, the forest becomes a hazardous place with intense activity by big machinery seven days a week, 24 hours a day,” Forests NSW forester, Craig Tribolet, said.

“One harvesting machine is able to cut and process more than 250 trees a day, generally weighing more than a tonne each,” he said. “Warning and safety signs are put up to limit access to highly-trained operators who work to strict workplace safety standards.”

Craig said Forests NSW recognised the language difficulties involved in reading signs.

“For the first time this Autumn, we have erected a large all-weather, multilingual interpretative banner in a popular mushrooming area, which will help mushroomers better interpret safety signs.

“The response from forest users has been good,” he said.

The banner outlines the meaning of safety and warning signs in English, Italian, Greek, Polish and Vietnamese.

“With staff working hard to prepare areas for replanting as soon as possible after harvesting, it won’t be long before mushroomers again have access to their favourite picking areas,” Craig said.

– Sarah Chester

Public Affairs & Media, Albury



Mushrooms such as this draw aficionados to the pine forests of the central west for a day of collecting. New multilingual signs will help ensure this is done safely. Photo by Craig Tribolet

- If uncertain of the identity of a mushroom species – DO NOT PICK IT!
- Have and use a recently produced Australian field guide for mushrooms.
- Look at ALL the text from field guides – DO NOT rely on pictures alone.

Harvesting equipment investment brings benefits

The safety, environmental and economic benefits of using the latest in timber harvesting technology have been demonstrated in Fosterton State Forest on the New South Wales lower north coast.

Harvesting contractor, Darryl Armfield, has recently invested more than half a million dollars in a new Valmet mechanical harvester with a Quadco intermittent saw head.

At work in the machine north of Dungog, in a 23-year-old blue gum and stringybark plantation, Darryl is able to cut trees at ground level, lift them into stacks, cut into lengths and load onto trucks for transport to local sawmills. And this is all done from the safety and comfort of the harvester’s enclosed cabin.

The saw head’s accumulating arms allows more than one tree to be harvested and cut into lengths at any one time.

“We saw the machine in action in Tasmania and were so impressed we bought one. We started using it here in NSW about six months ago,” Darryl said.

He said the awarding of secure contracts to his company by Forests NSW enabled him to confidently make the significant investment, with the machine expected to operate for at least five years.

“It’s safer, quicker and far more comfortable than falling trees with a chainsaw,” Darryl said. “We are able to work twice as fast as we used to.”

This means that a plantation thinning, crucial to the long-term production of high quality sawlogs, is now also commercially viable.

Forests NSW supervising forest officer, Brad Clough, said he was impressed with how quick and safe the machine was.

“We understand there’s only one other machine like it operating in NSW coastal forests,” Brad said.

– Leah Flint Communications, Maitland



The new mechanical harvester at work in Fosterton State Forest. The use of such machinery delivers safety, environmental and economic benefits. Photo by David Barnes

Certification close for Forests NSW



Forests NSW is moving towards forest certification, a worldwide trend which assures consumers that their timber comes from sustainably managed forests.

Certification officer, Alicia Hetherington, said forest certification would become intrinsic to the way Forests NSW conducts its business.

"Forest certification is an independent assessment of an organisation's forest management activities and operations set against predetermined criteria," Alicia said.

The concept of forest certification was developed in the early 1990s by environmental non-government organisations in an effort to cease the unsustainable and often illegal forest practices occurring in some parts of the world – largely the destruction of rainforests in countries such as Brazil.

Currently, there are two very thorough and rigorous internationally renowned schemes that dominate forest certification.

Demand from consumers is seeing an increasing worldwide trend toward independent certification. Forests NSW is aiming for certification within the next 18 months.
Photo by Tony Karacsonyi/Forests NSW Image Library

These two schemes, the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), cover more than 100 million hectares of forest in 62 countries.

In Australia two options are currently available:

- An interim FSC standard which will be available until such time as the FSC 'National Initiative' (specific to Australia) is developed.
- An interim Australian Forestry Standard (AFS), which has achieved mutual endorsement under the PEFC and is in the process of being assessed to a 'full standard'.

Most government agencies within Australia have looked into obtaining either FSC or AFS certification for their forest management, with AFS being the most popular to date.

"Forests NSW is examining both schemes with the aim to achieve certification to either within the next 18 months," Alicia said.

– Sarah Chester

Public Affairs & Media, Albury

Heath frogs move into repaired dam

Work by Forests NSW to give frogs in the Watagan Mountains a variety of homes is continuing, with habitat provided for several threatened and common frog species in the form of constructed or remediated dams.

Forests NSW ecologist Adam Fawcett said that a large number of frogs had moved into new dams in the central coast forests (as reported in *Bush Telegraph* Autumn 2004). Perons tree frogs (*Litoria peroni*), whistling tree frogs (*Litoria verreauxi*) and common froglets (*Crinia signifieria*) are just a few of the species found so far.

Adam said that in addition to new dams, an existing leaking dam that was repaired by staff with assistance from 'Work for the Dole' participants and Conservation Volunteers Australia was now home to threatened heath frogs (*Litoria littlejohni*), leading to lovely night time serenades for campers in a nearby campsite.

"Buffer zones are established to protect the dams during harvesting operations by

the implementation of a buffer zone, particularly where threatened frog species are detected within the area," Adam said.

"Additional protection measures are implemented for individual threatened species during harvesting. These ensure the protection of breeding, shelter and foraging habitat and ensure the long-term protection of populations."

Adam said late spring and summer was the peak survey time for summer breeding frogs because they are most active at this time of year, with males calling regularly to attract females.

Weather conditions also play a key role in the detection of frogs during surveys, with warmer and more humid nights seeing greater activity.

"Dams within forests provide artificial breeding sites for frogs but many species within the Watagans prefer creeks and streams as their habitat of choice," Adam said.



Rarely seen heath frogs have moved into a repaired dam in the Watagan State Forests. *Photo by Frank Lemckert*

"Much of the effort of pre-harvest surveys looking at frogs is directed at surveying creeks and streams for these species, such as the stuttering frog (*Mixophyes balbus*), to ensure that their habitat is identified and protected appropriately during forestry operations."

– Leah Flint Communications, Maitland

Supply agreements see higher-value products from low quality logs

The New South Wales Government has assured the futures of another group of north coast sawmillers, with a third round of wood supply allocations now underway.

"Fourteen sawmilling companies have been offered agreements from 31 applications in the area between Sydney and the Queensland border," said Forests NSW director of native forest operations, Michael Bullen.

"This is a great response to the invitations for the wood supply agreements from Forests NSW for low quality hardwood logs on the north coast.

Michael said some millers had indicated that they would be upgrading their mills or making other improvements that would lead to more of this lower quality timber (that typically produced pallets in the past) now ending up as high quality flooring, sleepers or other higher value products.

"The Government has allocated 107,675 tonnes a year in this latest round," Michael said.

"This is a continuation of the restructuring of the hardwood timber industry where the Government is seeking to maximise the value obtained from products being sawn.

"The millers who take up these agreements will have certainty of supply until December 2023, when the previously allocated supply agreements for higher quality sawlogs finish."

"A total of 111,000 tonnes of salvage timber has already been committed in the previous rounds," Michael said.

"In addition to this latest allocation, Forests NSW will continue to supply other customers with parcel sales of low quality timber."

Michael said the supply agreements brought further certainty to the timber industry and were a continuation of the rural industry restructuring process that had already occurred in the dairy and sugar industries.

– **Howard Spencer** Public Affairs & Media, Coffs Harbour

A third round of wood supply allocations is underway on the NSW north coast, covering low quality hardwood sawlogs. *Photo Forests NSW Image Library*



Timber bridges pass the test of time

Newly-constructed bridges in northern New South Wales State forests have kept Forests NSW bridge-building skills honed.

With material usually close at hand, Forests NSW bridge builders can still turn out a good solid bridge that will stand the test of time, not to mention thousands of heavy trucks.

The organisation's engineers and field staff have demonstrated this with a brace of new blackbutt bridges on the road to Platypus Flat in Nymboi-Binderay National Park.

"We have spent \$50,000 to replace bridges on the Moses Rock Road between Cascade and Platypus Flat in the Nymboi-

Binderay National Park," said Forests NSW North East Region harvesting forester, Murray Harrison.

"The current bridges have been in place for about 30 years. We replaced bridges at Welcome Gully and Mobong Creek and repaired a third bridge."

Murray said the road was an important access route for forest harvesting and it was also used by tourists and local residents visiting Platypus Flat.

The road will be used for hardwood plantation harvesting in the future.

"These are quite large bridges and we hope they will be in place for at least another 30 years," Murray said.

The bridges are in Wild Cattle Creek State Forest which borders Nymboi-Binderay National Park. Another new bridge has also been erected in Candole State Forest east of Grafton.

– **Howard Spencer**

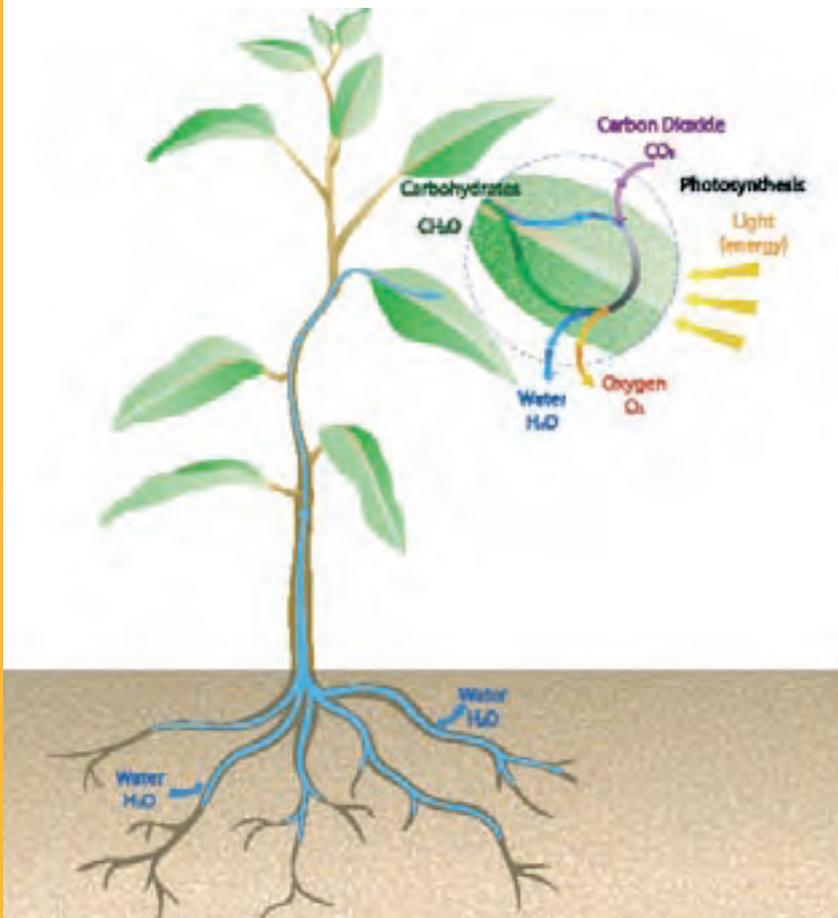
Public Affairs & Media, Coffs Harbour

Solid as a rock. Blackbutt stringers span a stream in Wild Cattle Creek State Forest as Forests NSW bridge builders prepare for another 30 years of harvesting and tourist traffic. *Photo by Howard Spencer*



Carbon storage

IN FORESTS



The general formula for photosynthesis is: $\text{CO}_2 + 2\text{H}_2\text{O} \xrightarrow{\text{light}} \text{CH}_2\text{O} + \text{O}_2 + \text{H}_2\text{O}$

Forests NSW has recently sold the first batch of carbon certificates representing carbon stored in its hardwood plantations to Energy Australia for more than \$1 million (see next article). But how do trees take the greenhouse gas CO₂ from the atmosphere and store it?

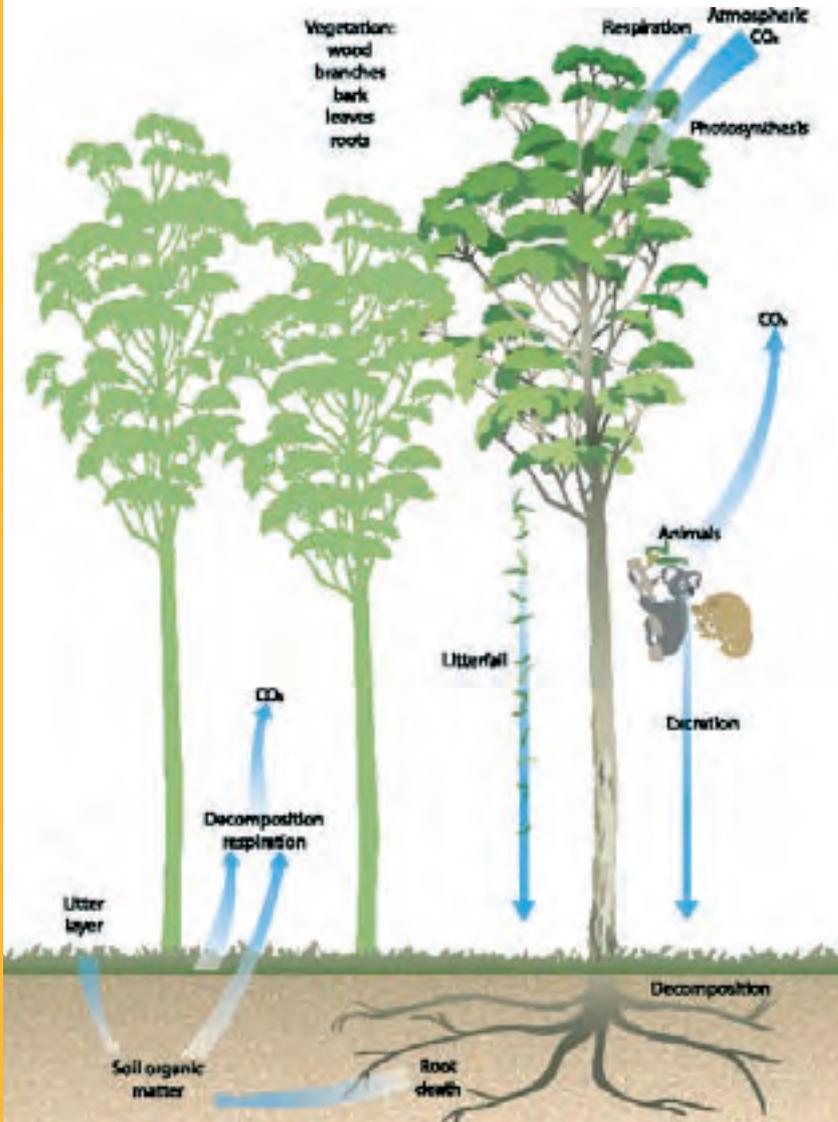
By Nick O'Brien

Carbon storage in forests is part of a natural cycle, whereby some carbon is removed from the atmosphere and incorporated into the plant, and at the same time carbon is released back to the atmosphere from the decomposition of litter and soil organic matter.

During photosynthesis, carbon dioxide (CO₂) is absorbed into the leaf through holes (stomata) in the leaf surface, where it is combined with water (H₂O) using energy from light (see diagram top). The products of this chemical reaction are carbohydrates (CH₂O), oxygen (O₂) and water. The oxygen and water are released from the leaf through the stomata, and the carbohydrates are transported to other parts of the plant where they are used as an energy source and to build structural components of the plant (such as cells).

Some of this carbon is stored in long-lived plant tissues, such as wood, whereas some is stored in short-lived tissues, such as leaves and fine roots. When plant tissues die, they are decomposed by microorganisms, resulting in the release (respiration) of CO₂ to the atmosphere (see diagram bottom). The microorganisms gain energy from this process, in much the same way that humans get energy from digestion of food.

The amount of carbon sequestered by a forest during a given period is therefore the balance between the amount of CO₂ absorbed through photosynthesis, and that released by respiration.



Carbon trading

Forests NSW leading the way

Forests NSW recently became the first body in the world to trade carbon credits arising from forests in a greenhouse gas abatement scheme.

In February this year, Forests NSW was fully accredited as an abatement certificate provider under the New South Wales Greenhouse Gas Abatement Scheme. It has since registered 166,005 certificates, each equivalent to one tonne of carbon dioxide.

The certificates represent the carbon sequestered during 2004 from approximately 10,000 hectares of planted hardwood forests.

The first batch of Forests NSW carbon certificates, worth more than \$1 million, has now been purchased by EnergyAustralia to help offset the greenhouse gases released into the atmosphere as a result of electricity use in NSW.

Forests NSW chief executive, Peter Duncan, said the sale was a major step in efforts to address climate change.

"These certificates provide a new form of currency that will allow us to realise the full financial and environmental value of our forests," Peter said.

"The sale confirms that there is a market for forest-based carbon credits and this should also provide additional incentives for companies to partner with Forests NSW to invest in new plantations."

Forests NSW carbon investment analyst, Penny Baalman, said the result was the culmination of many years of work by Forests NSW, including specific research programs, the development of carbon accounting

methods and the development of rules to enable trading in carbon sequestration.

In addition to developing a carbon accounting system that is sufficiently robust to gain accreditation under the NSW scheme, Forests NSW has been heavily involved in developing state, national and international standards and guidelines to enable carbon accounting and trading.

Recognition of the role of forests in reducing levels of carbon dioxide in the atmosphere was given a substantial boost with the signing of the Kyoto Protocol in 1997. The Kyoto Protocol allows countries to include the removal of greenhouse gases from the atmosphere by afforestation and reforestation activities in meeting their commitments under the Protocol. While Australia has not ratified the Kyoto Protocol, the NSW Scheme incorporates many of its principles.

Working with the Sydney Futures Exchange from early 1999, it became apparent that the uncertainties associated with carbon sequestration accounting would need to be resolved in order to support the generation of a commodity sufficiently reliable for trading.

"Early in 2000 Forests NSW put a proposal to Standards Australia to establish a committee to devise guiding rules for accounting for carbon sequestration from forests," Penny said.

"Forests NSW was a major contributor to the interim standard published by Standards Australia in June 2002. This was the world's first greenhouse gas accounting standard."

In 2001, Forests NSW also began working with the architects of the NSW scheme, the Department of Energy Utilities and Sustainability, to develop a methodology for calculating carbon sequestration. This was later replaced with the Interim Australian Standard and the development of a Rule for Carbon Sequestration within the scheme.

"The experience gained from developing our own carbon accounts has meant that we bring a very practical viewpoint to standards development," said Penny, who is a member of the Standards Australia committee and represents Australia as an expert on afforestation and reforestation within the International Organization for Standardization (ISO) Working Group on Climate Change.

According to Penny, it is widely recognised that the issues surrounding the accounting of carbon sequestration in forests are more complex than other abatement activity types, and so carbon sequestration is often put in the 'too-hard' basket.

"This has made our achievements under the NSW Scheme, and in getting sequestration recognised internationally as a credible abatement activity, all the more rewarding," said Penny.

"We have tried to ensure the rules are as rigorous yet as practically achievable as possible."

"While Forests NSW has been the first to trade carbon sequestration within a scheme, the fact that rules are now in place allows



NSW Greenhouse Gas Abatement Scheme

other participants within NSW to undertake tree-planting activities that contribute to a reduction in greenhouse gases," said Nick O'Brien, Forests NSW carbon accounting officer.

"The more groups that are able to participate the better it is for the environment, whether it is a major investment undertaking, or farmers wanting to improve the economic and environmental sustainability of their enterprise by joining a managed carbon pool."

An exciting aspect of the inclusion of carbon sequestration within the NSW scheme is that this allows a financial value to be attributed directly to an environmental service, according to Nick.

"We can now place a dollar value on the contribution that these forests make to reducing atmospheric carbon dioxide levels," said Nick.

"The inclusion of a return for carbon sequestration may mean that investment in plantations that were previously less attractive financially, such as those grown for sawlogs over longer rotations or on lower productivity sites, will become much more attractive.

"Gaining a financial return from carbon will also contribute to covering the costs of planting new forests purely for environmental reasons.

"Not only will this benefit the environment through soil protection, reduction in salinity and enhancement of biodiversity, but it will also help ensure a viable future for a sustainable timber industry in NSW."

– **Howard Spencer**

Public Affairs & Media, Coffs Harbour

Below left: Penny Baalman and Nick O'Brien making the first transfer of sequestration certificates on the NSW Greenhouse Gas Abatement Scheme registry. This represents the world's first trade of carbon credits arising from forests in a greenhouse abatement scheme.

Leading the way for Australia, Premier Bob Carr announced in May 2002 that NSW would implement a mandatory greenhouse benchmark scheme for the electricity sector.

From 1 January 2003 electricity retailers would have four years to progressively reduce their emissions by five per cent from per capita levels of 1989-1990.

To minimise the financial impact on NSW consumers, the policy was designed to be implemented in a flexible, least-cost manner, which included introducing greenhouse abatement certificates tradable as abatement currency across all eligible abatement activities.

The NSW Greenhouse Gas Abatement Scheme sets and regulates mandatory targets for abating the emission of greenhouse gases from electricity production and use.

The scheme requires NSW electricity retailers and certain other parties to meet mandatory targets by reducing their emissions of greenhouse gases to identified benchmark levels. Failure to do so results in a penalty calculated per tonne of emissions generated above the participant's benchmark.

Greenhouse gas emissions in excess of a participant's benchmark can be off-set by surrendering abatement certificates purchased from accredited abatement certificate providers.

The scheme is administered by the Independent Pricing and Regulatory Tribunal.

Carbon sequestration activities currently allowed under the NSW Scheme are those that occur in NSW, meet the definition of afforestation or reforestation since 1990 as per Article 3.3 of the Kyoto Protocol, and demonstrate the capability for the abatement to be maintained for 100 years.

Forests NSW is now an Accredited Abatement Certificate Provider under Rule 5 – Carbon Sequestration within the Scheme. Full authorisation by the Scheme has allowed Forests NSW to generate and register NSW Greenhouse Abatement Certificates (or NGACs).

The current spot market price for NGACs is around \$11 per NGAC.

While NSW has the only operational greenhouse abatement scheme, the ACT and Victoria have announced intentions to establish similar schemes and other States are looking increasingly likely to implement their own schemes in the near future.

Abatement certificates may be created from certain emission-reduction activities, including:

- Low-emission generation of energy (generation)
- Activities that result in the reduced consumption of energy (demand side abatement)
- The capture of carbon from the atmosphere in forests (carbon sequestration)
- Activities carried out by elective participants that reduce on-site emissions not directly related to energy consumption (large user abatement)

More information can be found at
www.greenhousegas.nsw.gov.au and www.forest.nsw.gov.au.



fire

and the life of

young eucalypts

New hardwood plantations on the north coast of New South Wales promise to provide a plentiful and renewable future source of timber for the community. But before the trees reach maturity, they have to face the almost yearly risk of damage from bushfire.

"It is the early years when these plantations are most vulnerable, and fire at the wrong time can destroy them," Forests NSW doctoral student, Phil Lacy, said.

A three-part study he is undertaking as a thesis could provide valuable knowledge for current and future plantations.

"Forests NSW manages about 26,000 hectares of hardwood plantations, but many of these are in isolated blocks of less than 100 hectares," Phil said.

"Previous fire studies show that fire response times need to be less than 15 minutes to prevent damage or destruc-

tion to plantations. But most of the present plantations are more than 15 minutes from Forests NSW depots and centres.

"What I will be doing is to study alternative fire management strategies."

Phil said grazing has been used as one method, but often the grass in the plantations is unpalatable to cattle, and even if it is good, cattle can't keep ahead of it in the peak growing period.

"Slashing or spraying is effective, but it is limited because it does not remove fuel from close to the stems of trees, and it is expensive and time consuming," he said.

"Fuel reduction through controlled burning is likely to be the most cost effective and operationally efficient technique.

"However, at present there is insufficient knowledge of the potential effects of such burning on the wood quality, growth rate and general health of the plantation crop."

Phil said the main focus of his research is to determine, for specific plantation species, the crop age/stem size, fuel amount, and weather conditions that are appropriate for prescribed burning in order to minimise damage from burning to acceptable levels.

The study will be used to develop guidelines for the prescribed burning of eucalypt plantation forests.

"Although NSW north coast species will be targeted, the information from this study will have application to all other eucalypt plantation managers and fire authorities in Australia," Phil said.

The study is being conducted under the auspices of the Bushfire Cooperative Research Centre (CRC) which was established in 2003.

It will involve Geoff Smith from Forests NSW, Jim Gould from the CSIRO and Rodney Weber and Wendy Anderson from the

University of NSW. Forest NSW operational staff will also be involved in conducting the experimental burns.

The work will involve the controlled burning of plots in plantations of different species.

"A number of plantations that contain the target species will be selected to represent the range of fuel types and quantities, and the range of tree sizes prevalent in the plantation estate," Phil said.

"A series of replicated plots will be established within these plantations that will then be progressively burned under different weather conditions in order to cover a range of fire intensities."

Phil said the aim of plantation managers was to produce high quality logs that return the highest possible yields per unit area, in the shortest period of time.

As there was considerable cost input early in the rotation, the sooner the target log size was reached, the greater the profit.

"Any activity that reduces the vigour of a stand, or affects the quality of the stems, must be weighed up against the risk of not doing that activity," Phil said.

"To weigh up these risks, it is imperative to understand the effects of controlled burning on stand growth and stem damage. The effectiveness of controlled burning must also be understood.

"The length of time that fuels are reduced to manageable levels following burning is an important factor in determining whether, and how often, to embark on controlled burning operations."

Phil said the study would take some years to complete, with more data to be collected annually even after the initial work was done.

— Howard Spencer

Public Affairs & Media, Coffs Harbour



Top: Controlled burning will be undertaken in plantations of different tree species. The effects of the burning on young eucalypts will be studied over the next few years.

Above: Young plantations are vulnerable to fire, and can be destroyed by fires at the wrong time of the year.

Photos by Phil Lacy



Collaboration across the Tasman is helping Forests NSW tap into the very latest information on wood quality.

Worldwide, the timber industry has become very interested in the factors that cause variation in wood quality, and methods of segregating logs based on quality.

Mills are able to improve utilisation and profit by processing logs of a given quality for a specific product.

During recent months, Forests NSW has been collaborating with the University of Canterbury in New Zealand on a wood quality project.

The main drivers behind the project from Forests NSW have been Peter Crowe, Dr Ross Dickson and Dr Carolyn Raymond, who originally worked with the University of Canterbury's Professor John Walker to conceive the project.

The university has supplied Forests NSW with a customised tool it developed for measuring acoustic velocity – the speed of sound – as it travels through trees.



Julian has also been working with Forests NSW on the impact of tree moisture content on acoustic velocity, as well as relating standing tree acoustics to board stiffness in bending, as measured by a sawmill machine stress grader.

"My stay with Forests NSW in Tumut has been rewarding in many areas, especially in gaining exposure to the management of such a large plantation resource. All the technology, resources, logistics, and systems of the organisation are an excellent benchmark for world-class forestry," Julian said.

Forests NSW Hume Region planning manager, Duncan Watt, said high sound speed correlated well with desirable wood properties such as stiffness.

Tapping into sound technology



Called 'Tree Tap', it is one of several under test, and the accuracy of its measurements compare favourably with that of others currently under development in Australasia.

To measure the acoustic velocity, two measurement probes and a metal spike are temporarily hammered into the stem of a tree. The sound wave is generated by striking the spike with a hammer.

The time taken for the sound to travel between the two probes is measured in microseconds. The measurements are stored on a small computer and analysed later in the office.

Wood samples are collected in conjunction with the acoustic measurements and sent to Forests NSW wood quality laboratory in Sydney, where such things as wood density and moisture content are measured.

A PhD student from the university, Julian Moreno, is spending six months at Tumut undertaking most of the field measurement.

Forests of various ages, management histories and previous land uses have been sampled.

"It is generally recognised that wood quality improves as a tree ages and that wood quality can be altered if, for example, the land was regularly fertilised pasture prior to the plantation being established," Duncan said.

"Until now we haven't had the tools to be able to efficiently quantify this variation."

The project aims to determine the main environmental and soil factors that affect wood quality across the region and to identify management strategies that will potentially improve wood quality.

"The information will be integrated into Forests NSW operational and strategic planning systems and help us maximise the potential value of Forests NSW plantation resource for our customers," Duncan said.

– Sarah Chester Public Affairs & Media, Albury

Top: PhD student Julian Moreno extracting one of the wood cores that he has removed from over 1,500 pine trees across Hume Region as part of a research program into wood quality. Photo by Paul Kelly



Softwoods on a roll in the south west



The softwood industry is on a roll in the south west slopes of New South Wales, with the industry a major driver of economic development in the region. Sarah Chester reports.

Forests NSW manages 85,000 hectares of pine plantation on the south west slopes, while a further 31,000 hectares is privately owned.

A profile prepared by consultants URS shows that in 2002/03, the timber industry in the south west slopes generated \$1.166 billion for the regional economy and provided jobs for more than 3,500 people.

With expansions already announced in the processing sector, this will grow to more than \$2 billion with an additional 400 jobs to be created within five years.

"When combined with the north east Victorian timber industry, the region arguably hosts the richest 'timber basket' in the nation," Forests NSW director, Peter Crowe, said.

The study was commissioned by the Riverina Development Board's Softwoods Working Group to demonstrate the importance of the timber industry to the region.

"Because the timber resource is spread across such a large area and the processing plants are

widely distributed, it is difficult to visualise the size of the industry," Peter said.

The industry is driven by 178,000 hectares of softwood plantations across the two States, and is unique because of the high number of value-adding processing plants within the region including Visy, Weyerhaeuser, Norske Skog and Hyne and Son.

"The high level of processing ensures that the south west slopes region captures a large proportion of the potential economic benefits that are derived from the region's extensive softwood plantations.

"This region, and NSW, is quite different to plantation development in other states, where recent development has been based on plantation hardwoods which are typically a commodity, exported in chip form, with very little of the value-adding occurring in the plantation area," Peter said.

The study shows that every 70 hectares of plantation in the south west region supports one job. This compares favourably with other rural land uses.

Peter said that as processors expand, excellent opportunities for further plantation development with a guaranteed market will develop.

"As the regional softwood resource is virtually fully committed, the future of processing industries will

depend on the availability of an expanding secure resource.

"This will make investment in softwood plantations attractive, even though the bulk of the return is not realised for 25 to 30 years," Peter said.

– Sarah Chester Public Affairs & Media, Albury

Every 70 hectares of plantation in the south west slopes supports one job. Photos Forests NSW

Recent expansions and those planned for the south west slopes include:

- A recent \$130 million upgrade to Norske Skog's paper mill at Albury, which is likely to increase production by more than 20 per cent.
- Visy plans to spend \$360 million to speed-up production at its Tumut mill and install a second paper machine in 2008/9.
- Hyne and Son have invested more than \$100 million in a substantial increase in capacity at its Tumbarumba mill.
- Weyerhaeuser at Tumut have invested \$25 million during the past four years and plans to invest another \$10 million to increase capacity during the next two to three years.

USUALLY IN ANY FOREST, THE NIGHT IS GIVEN OVER TO THE MYRIAD OF CREATURES THAT MAKE IT THEIR HOME.

But with what has now become a regular rhythm for some forests, there is another night visitor that shares that forest home.

He or she is a Forests NSW ecologist – a social worker for forest animals.

This dedicated band of scientists and their helpers are responsible for pre-harvest surveys to check on the welfare of forest dwellers that have been found to be at risk.

Their clandestine work has paid off. In the more than eight years that they have been roaming the night world of the forests they have been laying friendly traps, hair tubes and cameras – anything that can help establish the presence of usually small and often timid animals.

From bats and frogs to mice and lizards; you name it, they have been caught, weighed, measured, photographed, clipped, cradled and released.

“Our surveys have more than doubled many of the records for vulnerable animals,” said Forests NSW Mid North Coast ecologist, Justin Williams.

“Some have even tripled.

“All these have been found during the pre-harvest surveys that we are required to do before any timber harvesting operation.

“It has given Forests NSW and the ecology world in general a better idea of the distribution and abundance of these animals.”

Before the Forests NSW surveys, there were often so few records of some species that a naturally precautionary approach was taken to their protection.

“I guess we are more comfortable now about the status of many of these animals,” Justin said.

“That is especially so, as we know that whenever a record is found it triggers a protective mechanism that controls harvesting around the area.”

The animals where records have improved include the stuttering frog, giant barred frog, sphagnum frog, golden-tipped bat and large-footed myotis bat.

“This improvement in abundance begs the question as to whether we should move the focus from pre-harvest surveys in every compartment to pre- and post-harvest monitoring in a subset of compartments to assess change in populations and effectiveness of the prescriptions at protecting the species,” Justin said.

“There is also some in-built protection in that for many of these species, which are usually found in stream environments, there is already some logging exclusion prescriptions applied to the riparian zones.”

– Howard Spencer
Public Affairs & Media, Coffs Harbour

Uncovering furry, feathered and flighty forest dwellers



golden-tipped bat

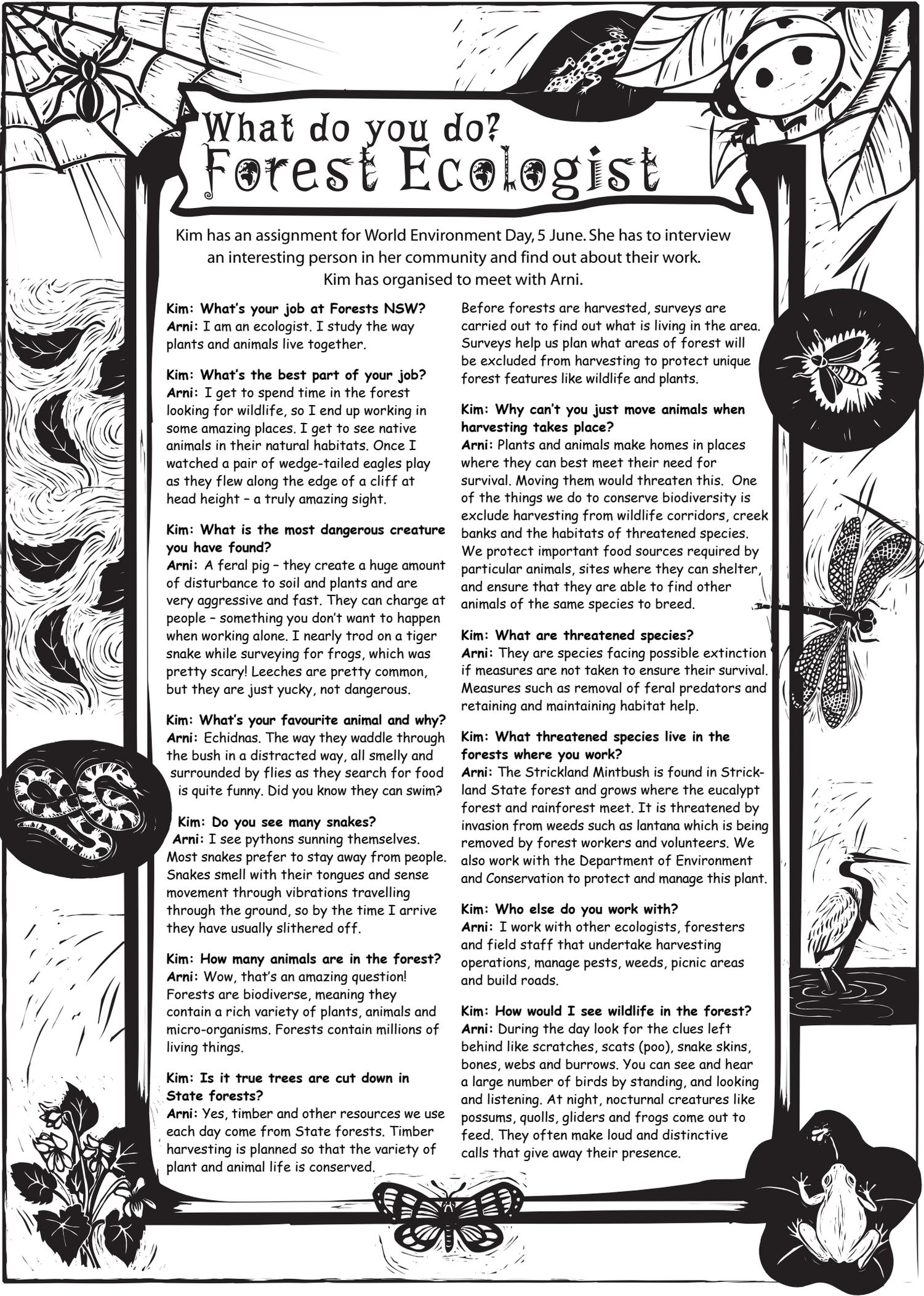


giant barred frog

Increases in known sightings:	pre 1996 sites	post 1997 sites	total	percentage change
Stuttering frog (<i>Mixopyhes balbus</i>):	65	57	122	88
Giant barred frog (<i>Mixopyhes iterates</i>):	12	36	48	300
Sphagnum frog (<i>Phyllorhina sphagnicolus</i>):	44	29	73	66
Golden-tipped bat (<i>Kerivoula papuensis</i>):	16	35	51	219
Large-footed myotis bat (<i>Myotis macropus</i>):	5	41	46	820

The sphagnum frog has a 50 metre radius exclusion zone around records. The others have 30 metres. The other frogs and the golden-tipped bat have 30 metre wide exclusion zones on either side of creeks within 200 metres of a record.

The large-footed bat has a 30 metre wide exclusion zone either side of permanent creeks within 100m of a record and 30 metre wide exclusion zone around all permanent water-bodies



What do you do? Forest Ecologist

Kim has an assignment for World Environment Day, 5 June. She has to interview an interesting person in her community and find out about their work.

Kim has organised to meet with Arni.

Kim: What's your job at Forests NSW?

Arni: I am an ecologist. I study the way plants and animals live together.

Kim: What's the best part of your job?

Arni: I get to spend time in the forest looking for wildlife, so I end up working in some amazing places. I get to see native animals in their natural habitats. Once I watched a pair of wedge-tailed eagles play as they flew along the edge of a cliff at head height - a truly amazing sight.

Kim: What is the most dangerous creature you have found?

Arni: A feral pig - they create a huge amount of disturbance to soil and plants and are very aggressive and fast. They can charge at people - something you don't want to happen when working alone. I nearly trod on a tiger snake while surveying for frogs, which was pretty scary! Leeches are pretty common, but they are just yucky, not dangerous.

Kim: What's your favourite animal and why?

Arni: Echidnas. The way they waddle through the bush in a distracted way, all smelly and surrounded by flies as they search for food is quite funny. Did you know they can swim?

Kim: Do you see many snakes?

Arni: I see pythons sunning themselves. Most snakes prefer to stay away from people. Snakes smell with their tongues and sense movement through vibrations travelling through the ground, so by the time I arrive they have usually slithered off.

Kim: How many animals are in the forest?

Arni: Wow, that's an amazing question! Forests are biodiverse, meaning they contain a rich variety of plants, animals and micro-organisms. Forests contain millions of living things.

Kim: Is it true trees are cut down in State forests?

Arni: Yes, timber and other resources we use each day come from State forests. Timber harvesting is planned so that the variety of plant and animal life is conserved.

Before forests are harvested, surveys are carried out to find out what is living in the area. Surveys help us plan what areas of forest will be excluded from harvesting to protect unique forest features like wildlife and plants.

Kim: Why can't you just move animals when harvesting takes place?

Arni: Plants and animals make homes in places where they can best meet their need for survival. Moving them would threaten this. One of the things we do to conserve biodiversity is exclude harvesting from wildlife corridors, creek banks and the habitats of threatened species. We protect important food sources required by particular animals, sites where they can shelter, and ensure that they are able to find other animals of the same species to breed.

Kim: What are threatened species?

Arni: They are species facing possible extinction if measures are not taken to ensure their survival. Measures such as removal of feral predators and retaining and maintaining habitat help.

Kim: What threatened species live in the forests where you work?

Arni: The Strickland Mintbush is found in Strickland State forest and grows where the eucalypt forest and rainforest meet. It is threatened by invasion from weeds such as lantana which is being removed by forest workers and volunteers. We also work with the Department of Environment and Conservation to protect and manage this plant.

Kim: Who else do you work with?

Arni: I work with other ecologists, foresters and field staff that undertake harvesting operations, manage pests, weeds, picnic areas and build roads.

Kim: How would I see wildlife in the forest?

Arni: During the day look for the clues left behind like scratches, scats (poo), snake skins, bones, webs and burrows. You can see and hear a large number of birds by standing, and looking and listening. At night, nocturnal creatures like possums, quolls, gliders and frogs come out to feed. They often make loud and distinctive calls that give away their presence.

Act as an ecologist and spot the difference between these two forest scenes. Circle the wildlife and the clues left behind during the day and at night.





Urban forest and ecology focus for university students

Tertiary students have long been visiting Cumberland State Forest in Sydney, in addition to a variety of other State forests across regional New South Wales, to assist their studies.

Cumberland education officer, Gerard Nolan, said the West Pennant Hills forest was a great site for tertiary students to undertake a variety of tasks, and was especially suitable for those interested in the management of an urban forest.

Cumberland State Forest in Sydney is an attractive destination for wildlife management and ecology students. *Photo Forests NSW Image Library*

"There is the opportunity for individuals or groups to conduct field work research into topics such as wildlife management or ecology," Gerard said.

Recently, some postgraduate ecology students from the University of NSW identified four different species of micro bats as part of a night time fauna survey in the forest.

"While even more recently, on a wet misty Autumn afternoon, a group of 90 undergraduate biology students from the University of Technology, Sydney, participated in sessions on vegetation types, weed management and pest control," Gerard said.

TAFE students undertaking tourism and guiding courses visit the forest to gain some practical help with their presentation and interpretative skills, especially in identifying native flora and fauna.

Gerard said the main focus for visiting conservation and land management and resource management students is to examine the theory behind sustainable forest management.

"Ideally, this is combined with a visit to a regional area to observe Forests NSW sustainable harvesting practices in a working forest firsthand," he said.

For further information on tertiary visits to Cumberland or other State forests, contact Gerard Nolan on Ph: (02) 9871 0050.

– **Leah Flint**

Communications, Maitland

From boardroom to bush

Forest educators from around Australia gathered in New South Wales in March to attend the third annual national forest educators' conference. Hosted by Forests NSW, with support from the National Association of Forest Industries, the conference focused on a national approach to forest education.

Delegates discussed a plan to provide contemporary and useable information on Australian forests and forestry to both teachers and students. This will be done in partnership, centralising existing state-based information and resources, and determining the best method of delivering the information, with a focus on web-based technologies.

A highlight of the conference was an overnight camping trip to the State forests of the Watagan Mountains. The field trip enabled delegates to get a feel for the ecology and management of NSW native State forests and participate in a key activity of the annual conferences – professional development.

With a draft plan of action in place, exciting times lie ahead for the provision of resources to students and educators on a national scale.

For more information on Forests NSW participation in national education initiatives or general education services go to www.forests.nsw.gov.au/education.

– **Carmen Perry** Communications, Maitland

Pictured discussing remote sensing technologies during the field trip of the national forest educators' gathering are (left to right) Michael Hill, NSW; Russell Turner, NSW; David Hamilton, Tasmania; Rob Robinson, South Australia; Darcy Vickers, Tasmania; and Kathy Overton, Victoria. *Photo by Carmen Perry*



Leaders in tree improvement to gather in Grafton

Forest managers from around the world will have the chance to enhance their knowledge of the latest developments in tree improvement at the new Grafton Forestry Centre of Excellence in August.

A course will be conducted at the centre led by world-renowned tree researcher, Dr Steven Verry, Professor Robert Henry from Southern Cross University and Forests NSW manager of tree improvement, Michael Henson. Dr Verry is from the Council for Scientific and Industrial Research in South Africa, a leader in the development and commercial application of molecular genetic research of plants.

"This course is designed for managers with an interest in tree improvement programs," Forests NSW manager of tree improvement, Michael Henson, said. "Topics covered will include world trends in forestry; such as the major changes, opportunities and challenges that impact our tree breeding strategies," Michael said.



"Tree improvement and the effect on the environment, dangers of gene pollution, impacts on biodiversity, controlling alien invasives, and how certification requirements impact breeding objectives will also be discussed."

The Grafton Forest Centre of Excellence is poised to play a large role in tree breeding for Forests NSW, with a number of on-site plantation projects planned either or under way.

The course will be held from August 2-4, the week before the XXII IUFRO World Congress 2005 which will be held from August 8-13.

More information about the course can be found at www.csir.co.za.

– **Howard Spencer**
Public Affairs & Media,
Coffs Harbour

The world's leading tree improvement researchers will gather in Grafton in August to discuss the opportunities and risks of tree breeding. *Photo by Howard Spencer*

june – august 2005 events

- June – August Cumberland State Forest activity program
A variety of activities for children and families, including 'Cumberland at night' and 'Early bird brekky'.
Bookings essential
Cumberland State Forest Ph: (02) 9871 3377 or 1300 655 687
- June 3-5 Sydney Timber and Working with Wood Show
Moore Park, Sydney. Forests NSW will have a display and is sponsoring a native timber woodworking competition
www.workingwithwood.com
- June 16 Primex Field Days, Casino
One of the premier agricultural field days and the largest commercial exhibition in northern New South Wales.
Forests NSW will have a display at this event
www.exhibitionmarketing.com.au/primex
- June 24-26 Sydney Fishing Show and Outdoors Expo, Olympic Park.
Discover the best camping destinations, fishing spots and great ideas for your next fishing trip. NSW DPI will have a display at this event. Entry fees apply
www.fishingshow.com.au
- July 4-14 Cumberland State Forest school holiday activity program
A variety of fun, low-cost activities for kids. Bookings essential
Cumberland State Forest Ph: (02) 9871 3377 or 1300 655 687
- July 5 Hunter teachers bus trip
Teachers and educators day tour of the native forests of the central coast
Contact Gerard Nolan, Cumberland State Forest Ph: (02) 9871 3377
- July 15-16 Mudgee Small Farm Field Days
The biggest event on the Mudgee calendar and a must-see experience for anyone with an interest in any farm-related innovations. NSW DPI will have a display at this event
www.arec.com.au
- July 25-29 Spirit of the Story
For years 3-6 students, 'Story of the Eucalypt' at Cumberland State Forest
Contact Gerard Nolan, Cumberland State Forest Ph: (02) 9871 0050
- July 31 National Tree Day
Cumberland State Forest Ph: (02) 9871 3377 or 1300 655 687

International forestry conference in August

The 22nd International Union of Forest Research Organizations (IUFRO) World Congress will be held 8-13 August 2005 at the Brisbane Convention and Exhibition Centre. Forests NSW is a partner agency in staging the event.

The theme for the Congress is 'Forests in the Balance: Linking Tradition and Technology'.

Congress chair Dr Gary Bacon said scientists, growers, processors and managers will be able to access the latest advances in forest science and fast track their ability to apply these to forest management, production and environmental issues.

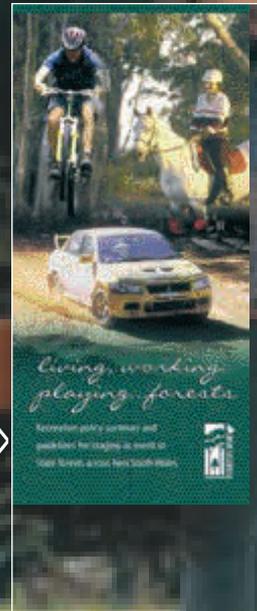
Key speakers include Canadian Indian tribal leader Dr Joseph Gosnell, who will speak on the changing role of Aboriginal peoples and the use of traditional knowledge in the management of forests and natural resources.

The congress, hosted by the Queensland Department of Primary Industries and Fisheries is an unprecedented opportunity for Australian scientists, researchers and growers in the forestry sector to demonstrate their expertise under the international spotlight.

For further information see www.iufro2005.com

Looking to stage an event in a State forest near you?

Then pick up a copy of Forests NSW new
'Living, working, playing ... forests'
brochure offering tips and guidelines.



From sled dog racing and equestrian events, to orienteering and mountain biking, car and bike rallies to commercial filming and tours – there are so many opportunities for events and activities in State forests!



This new brochure gives an overview of Forests NSW policy on recreation, sport, tourism and training and outlines fees and guidelines for organising an event. It is your step-by-step guide on obtaining a permit to stage your forest event.



Forests NSW recreation policy and brochures can be viewed on-line at www.forest.nsw.gov.au/recreation



Forests NSW information centre

T: (02) 9871 3377 or 1300 655 687