

New department head and executive announced

Keeping tabs on forest water quality

Hyne & Son expand Tumbarumba mill

Threatened species at home in forests

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from the chief executive

There are some subtle changes that you may notice as you read through this issue of *Bush Telegraph*.

From July 1 2004, State Forests became Forests NSW, a Public Trading Enterprise within the NSW Department of Primary Industries. The change sees us join with agriculture, fisheries and mineral resources under the direction of the NSW Minister for Primary Industries, Ian Macdonald. Experienced agribusiness leader, Barry Buffier, has taken up the helm of the new department and has established an executive management team that he believes will inject energy and focus into the State's most important primary industries. These industries combined contribute 40 to 50 per cent of the economic activity in regional NSW, with the amalgamation designed to better meet the needs of our stakeholders (see story on page 9).

It is reassuring to note that whilst the new Department and agencies amalgamate, business is continuing as usual.

For example our two-page feature on pages 10/11 looks at water quality monitoring in State forests. On page 13, we look at the work our ecologists have been doing since the introduction of Regional Forest Agreements in NSW almost five years ago. The knowledge they have gained on the threatened plants and animals found in State forests is invaluable. Also invaluable is Forests NSW collection of timber pests, with some 50,000 native and exotic specimens acquired over the past 80 years (see page 15).

Finally, the importance of forestry in regional NSW is highlighted on page 3 where we report on 20-year wood supply agreements for the NSW north coast, and \$50 million of harvest and haul contracts on the north and south coasts.



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Cover photograph Several long-term studies are underway to determine water quality in selected catchments in native forests and softwood plantations in NSW. Forests play a significant role in maintaining downstream water quality and supply. See page 10 for story.

Photo by Tony Karacsonyi/Forests NSW Image Library



Twenty-year wood supply agreements have been signed with north coast timber companies.
Photo Forests NSW Image Library

Historic north coast forestry contracts signed

The New South Wales Government has signed the first in a series of 20-year wood supply agreements that will underpin timber industry employment and investment on the New South Wales north coast.

The first agreements, announced by Premier Bob Carr at the Annual Conference of the Shires Association of NSW in June, will replace previous supply agreements for high quality sawlogs finalised following the North East Regional Forest Agreements.

The wood supply contracts will provide the timber industry in the region with unprecedented security.

The agreements remove a significant impediment to investment by providing long-term supply and a secure platform from which the industry can move forward with security and confidence.

In addition to the changes to the previous supply contracts, two new types of wood supply agreement are also being introduced to secure the supply of specialty high quality logs (smalls, logs, poles, piles and girders) and lower quality sawlogs (thinnings from plantations and native forests).

By extending the long-term security of supply to a broader range of logs, some companies will have, for the first time, certainty in the form of a legally binding wood supply agreement.

The restructured supply arrangements are the result of 12 months work by Government and the industry to create a long-term vision for the north coast timber processing sector.

As well as stimulating new investment and jobs, the changes will ensure optimum use of the available wood resource. The logging industry will also benefit, along with many north coast communities.

The new contracts recognise the changing nature of our timber resources into the future, particularly the increased supply from hardwood plantations and the capacity of industry to process and add value to smaller, lower quality logs.

– **Bill Frew** Public Affairs, Sydney

\$50 million of harvest and haul contracts announced

Minister for Primary Industries, Ian Macdonald, has announced the award of contracts totalling more than \$50 million to ten timber harvesting and haulage contractors on the New South Wales north and south coasts.

“These contracts to deliver timber from State forests to local processing plants reflect the enormous economic significance of the timber industry to regional NSW,” Mr Macdonald said.

Worth a total of \$53.6 million, the contracts have been awarded to harvest and haulage contractors based in Narooma, Batemans Bay, Bulahdelah, Wingham, Clarenza, Dorrigo, Thora, Walcha, Grafton and Casino.

“The contracts are an extension of the new harvest and haulage system being implemented to ensure that every log from NSW State forests is directed to its optimum end use and to provide improved environmental and safety performance,” Mr Macdonald said.

“Under the contract, harvest and haulage arrangements for all timber products in each forest are harvested at one time and then delivered to different mills according to the product category they process.

“Instead of mills engaging harvesting contractors and sourcing their own timber, they order directly from the Department of Primary Industries and the timber is cut and delivered by the department’s contractors.

“This improves efficiency and helps to minimise the environmental impact of harvesting and hauling timber from the forest to the mill.”

– **Bill Frew** Public Affairs, Sydney



Contracts worth more than \$50 million have been awarded to timber harvesting and haulage contractors on the NSW north and south coasts. Photo Forests NSW Image Library

Forests NSW joins peak tourism group

Forests NSW has become a gold member of TTF Australia (formerly the Tourism Taskforce), the peak industry group for the national tourism, transport and infrastructure sectors.

With the support of member sponsors such as Forests NSW, TTF Australia is undertaking a range of tourism research projects, including a recently published study on the tourism potential of natural areas such as State forests.

Forests NSW sustainability analyst, Hilary Smith, was a project reference panel member during the study.

"The study highlights the importance of partnerships between the tourism industry and land management agencies to promote natural areas, provide high quality visitor experiences and increase public appreciation of natural areas," Hilary said.

She said that State forests provide a unique opportunity to participate in an extraordinarily



Forests NSW has joined TTF Australia, supporting a range of tourism research projects including this study on the tourism potential of natural areas.

wide range of active and passive recreational pursuits – described as the 'nature tourism' experience.

"The study is relevant to all land managers, especially when it comes to visitor expectations about facilities. In fact, State forests were identified in the study as areas where large-scale tourism infrastructure could be constructed to relieve visitor pressure on national parks.

"State forests are managed for a range of values," Hilary said. "While the primary objective is providing a sustainable supply of timber to the community, it's in conjunction with a range of environmental, social and economic values including providing and promoting opportunities for sustainable recreation and tourism.

"We are looking forward to continuing our association with TTF Australia and developing stronger partnerships with nature tourism operators."

– **Sally Arundell** Sustainability Group, Sydney

New grading system ensures best use of red gum

A new sawlog grading system developed by the Riverina red gum sawmilling industry and Forests NSW will ensure maximum value-adding for the region's unique red gum timber.

The new system sees red gum sawlogs from the State forests in the Murray, Murrumbidgee and Mildura timber catchment areas systematically segregated according to their potential for value-adding. This ensures that all of the highest quality logs will be selected for processing into high-value products such as veneer, furniture and flooring.

"It is very exciting to be able to encourage further value-adding of this beautiful native timber," Minister for Primary Industries, Ian Macdonald said.

"The new segregation system will ensure that all logs harvested from the red gum forests are put to their best end use,"

he said. "Traditionally, red gum has been used for a range of utility and structural grade products with a small but developing market for higher value products."

Mr MacDonald said that with the new grading system in place, the industry was better able to identify those logs that can go into higher-grade products and place them accordingly in the marketplace.

"The new grading system and increased investment in value-adding equipment by red gum sawmillers are some of the achievements to flow from a strategic planning process launched by Forests NSW and the red gum industry in 2001," he said. "These will have significant flow-on benefits for local communities."

A new red gum grading course and manual has been developed to assist the industry to correctly identify, grade and segregate all products.

– **Sarah Chester** Public Affairs, Albury



Above: Drew Gardner, Russell Douglas and Simon Oster attending a red gum grading course at Deniliquin.

Left: River red gum harvested from State forests in the Riverina will be assessed under a new sawlog grading system. Photo Forests NSW Image Library



Hunting an option for feral animal control

Feral animal control is a significant issue for all rural land managers. Feral pigs, goats and wild dogs not only cause significant environmental damage but can significantly impact on the livelihoods of graziers and farmers.

As the manager of 2.9 million hectares of State forests, Forests NSW is working with the Game Council of NSW to identify areas of forests that could be opened-up to hunters as part of an integrated approach to feral animal control.

A number of broad areas have been tagged as potentially suitable on the north and south coasts and in western New South Wales to become 'declared' public lands under the Game and Feral Animal Control Act 2002.

Forests NSW chief executive, Peter Duncan, said the proposed declarations of State forest areas would contribute to limiting the impact of feral pests.

"A strong relationship with the Game Council will help to achieve the best outcomes for the environment and other land managers," Peter said. "While there are obvious benefits in reducing feral animal numbers, allowing licensed individuals to hunt on public land clearly needs to be tightly regulated and talks are continuing about this."

Game Council of NSW chief executive, Ross McKinney, said his council could nominate licensed, responsible hunters to assist in feral animal control programs.

"Such hunters will be accredited members of an approved hunting club, pass examinations and abide by a strict Code of Practice. A licence will enable them to hunt on declared public land as it becomes available.

"This is an important milestone that will help hunters play a more active role in conservation and sustainability," Ross said.

– **Barbara Sanders** Forest Practices, Sydney

Investigations are underway to determine areas of State forests that may become available to hunters as part of integrated feral animal control programs. *Photo Forests NSW Image Library*



Drainage idea exported to Africa

A simple, but practical, device first used in south coast State forests has been taken up by some forestry industries in Africa.

It is the humble rubber flap drain made from a recycled mine conveyor belt and a couple of strips of green hardwood planking.

"These were first made about ten years ago by supervising forest officer Steve Hunt who, at the time, was working around the Narooma area," said South Coast Region operations and fire manager, Julian Armstrong, who has seen the rubber flap drain in use since its invention.

"They replace the traditional earth rolover which can play havoc with truck suspension and cost a lot of time in haulage," Julian said.

Zambian forester Ian Redfern was visiting Forests NSW workshop employee, Gary Keys, in Batemans Bay last year and, on a quick forest tour, encountered the rubber flap drains. Ian works for Sappi Fine Papers in Zambia.

A few quick photographs later and the idea was on its way to Africa. The rubber drains are currently being used in Sappi Forests' plantations in South Africa.

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

Above: Installing a rubber flap drain in south coast forests. The idea is now being tried in Africa. *Photo courtesy Julian Armstrong*



Seed collected regenerate fire ravaged forests

Alpine ash seed has been collected from Bago State Forest near Tumbarumba to be used in regenerating Victorian forests devastated by the 2002/2003 summer bushfires.

Forests NSW Tumbarumba forest manager, Chris Rhynehart, said that over a number of weeks in winter, contractor Kevin Johnson, who manages Kylisa Seeds Pty Ltd, collected seed from trees that were soon to be harvested.

"It was very satisfying for Forests NSW to be able to be involved in a project that will help regenerate fire ravaged areas of forest," Chris said.

The operation involved a seed collector climbing 30 to 40 metre high trees, right to the crown, and lopping the seed-laden branches.

Once on the ground, the seeds were

cut from the branchlets with secateurs and put into woosacks for transportation to Kylisa Seeds' kilns in Canberra.

Seed was then extracted and prepared for aerial sowing.

"It was a great opportunity to utilise the excellent seed crops in Bago State Forest," Kevin said.

He said seed harvesting was a specialised operation.

"The collectors need to have very good climbing skills and use climbing spurs and rigging," Kevin said.

The alpine ash seed will be used to regenerate forests in the Corryong District on the NSW/Victorian border.

Kevin also has contracts to provide seed for the Jounama revegetation program near Talbingo in Kosciuszko National Park.

– Sarah Chester Public Affairs, Albury

Brett O'Brien, from Kylisa Seeds, collecting seed from the top of a 30 metre alpine ash near Tumbarumba. The photo was taken by fellow seed collector Phil Hurley from a nearby tree.



Inspirational field naturalist recognised

More than a decade of passionate dedication by field naturalist Judie Peet to conserving the habitat of the glossy black cockatoo was celebrated at a special ceremony near Dubbo in May.

Close to 60 of Judie's friends and family, including fellow members of the Dubbo Field Naturalists and representatives of Forests NSW, National Parks and Wildlife and bird observers groups, attended the dedication of a dam in Goonoo State Forest as 'Judie Peet's Dam'.

Forests NSW Western Region operations manager, Don Nicholson, said Judie had been instrumental in organising and enthusing field naturalists to carry out regular surveys of endangered glossy black cockatoo populations in Goonoo State Forest.

"The dams in this forest are all regular watering holes for glossy black cockatoos, particularly during drought," Don said. "Judie took a keen interest in ensuring that measures were taken to protect these populations as well as looking out for the wellbeing of other plants and animals in, what she termed, her 'special place'.

"Judie was instrumental in ensuring consistent high quality monitoring of bird numbers so that behavioural patterns and seasonal variations can be better understood.

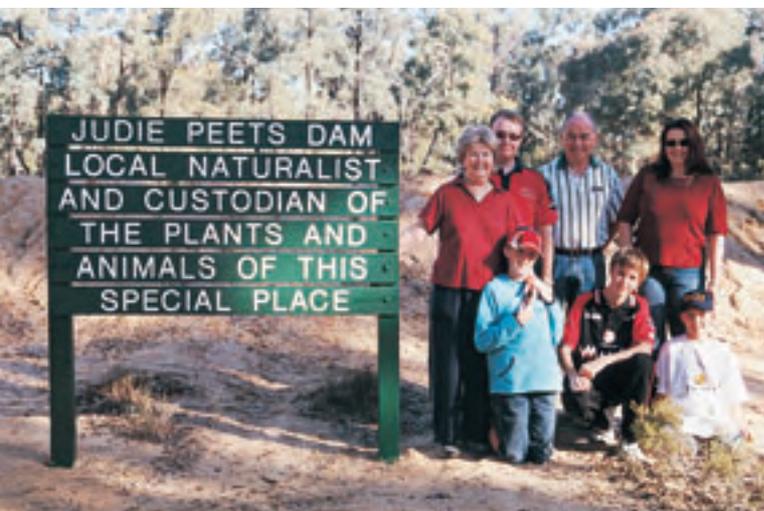
"She was also keen to ensure that forest management and conservation values are better understood by all parties, with a view to achieving better long-term management of the forests.

"The naming of this dam is in recognition of Judie's active support for improvements in the management of glossy black cockatoos, mallee fowl, and other threatened flora and fauna along with the legitimate use of the forest to produce a range of other benefits for the community."

Sadly, Judie, who was diagnosed with cancer more than a year ago, passed away a few weeks after the dedication ceremony.

Don said the dam would be a permanent reminder of Judie's devotion to protecting the forest environment.

– Bill Frew Public Affairs, Sydney



Judie Peet (left) and her family at the naming ceremony of the dam in her honour in Goonoo State Forest. Photo courtesy Don Nicholson

Potoroo flies first class to Sydney



An abandoned baby long-nosed potoroo found in Nadgee State Forest has a new home at Taronga Zoo.

The baby potoroo, dubbed 'Sandy' by her rescuers, arrived in Sydney in style courtesy of Regional Express Airlines.

Forests NSW Eden-based ecology assistant, Neil Hampshire, found the tiny potoroo while conducting routine plant and animal surveys in far south coast State forests early this year.

"I took her to be looked after by carers from the Native Animal Network Association," Neil said.

The carers, Henny and Wal Mullard, were happy to look after Sandy – despite there being little information available on how to rear potoroos, making the task more challenging.

After a few months in Henny and Wal's care, Sandy's future life was explored. Henny, knowing that Sandy would not survive if released back into the wild, found that Taronga Zoo had a breeding program for the long-nosed potoroo. The necessary steps were taken to secure a place for Sandy.

The next hurdle was getting Sandy to Sydney as fast as possible to ensure she would not be unduly stressed.

Regional Express Airlines was only too pleased to do its bit for the little abandoned marsupial.

Catching a flight from Merimbula in late June, Sandy added 560 grams to the aircraft thanks to her diet of avocado, almonds, cashews, grapes and grubs.

Flight Attendant Hanna Bryant welcomed Sandy aboard.

"I'll ensure Sandy receives first class service and has a comfortable flight," Ms Bryant said on the day of the flight. "Although she may prefer her special diet to our in-flight refreshments."

Sandy is now settling in to her new harbourside home at Taronga Zoo.

– **Sarah Chester** Public Affairs, Albury

Above: A baby long-nosed potoroo found in Nadgee State Forest and reared by carers is now part of a breeding program at Taronga Zoo. Photo by Neil Hampshire

Frog-friendly ponds in Watagan State forests

Are frogs fussy when it comes to choosing a pond in which to breed? Do different species prefer different conditions? Researchers from Forests NSW are conducting a new study into the use of fire dams by frogs in State forests on the central coast to find answers to these questions.

"As their name suggests, fire dams exist for the primary purpose of supplying water during times of bushfire," Forests NSW researcher, Frank Lemckert, said. "What people might not realise is that they also provide important habitats for frogs."

Frank said researchers have constructed more than 30 dams of different shapes, sizes and depths in the Watagan State forests and plan to monitor their usage for the next five years.

"The immediate aim is to observe any preferences among the different frog species when choosing a pond," Frank said. "This should allow us to make reasonably accurate predictions about the types of pond environment that attract certain species."

Just as a person might consider certain features when buying a property, frogs will often look for particular conditions when choosing a pond. Frank said the persons tree frog, which is common in the Watagans, appears to prefer ponds with more emergent vegetation around the perimeter but minimal shade over the centre.

"This information could potentially be used to encourage frog communities to congregate in certain areas within the forest, making it easier to monitor their numbers and protect habitat during timber harvesting."

Frank said the Watagan State forests are home to around 25 species of frog, including the rare giant burrowing frog and heath frog, which make them an ideal site for the study.

– **Emma McMahon** Public Affairs, Sydney

New fire dams in the Watagan State forests will be monitored to see which size and shape ponds frogs prefer. Photo by Frank Lemckert





Small tree leads to big industry

Elvie Nunan was 15-years-old when she planted the first pine in a plantation in the central tablelands. It was 1923 and it's probable that Elvie wouldn't have appreciated the huge significance of that event.

"I'm sure neither the foreman at the time, nor Elvie Nunan, would have thought that small first tree would lead 80 years later to an industry that covers 65,000 hectares and provides 900 jobs in the central tablelands," Forests NSW Macquarie regional manager, Dean Anderson, said.

It was the idea of Kevin McGrath, community services director of Oberon Rotary Club, to commemorate the region's first plantation pine tree.

"We put together a publication of stories by older people in the local community called *The Living Treasures of Oberon*," Kevin said. "One of the stories was by Mrs Elvie Nunan (nee Barker) who said she was asked by the local Forestry Commission foreman if she wanted to come and plant the initial tree.

"It later occurred to us that this was the beginning of a momentous time for the local community in terms of our economy and our identity. It was decided that we should somehow acknowledge the moment."

So the seed was sown, and the Oberon Rotary Club and Forests NSW recently came together to mark the first tree by erecting a plaque the Jenolan State Forest picnic area east of Oberon township – the site of the first plantation pine.



Above: Member for Bathurst Gerard Martin unveiling the plaque with official guests Bill Muldoon, Oberon Rotary Club president; John Whittall from Forests NSW; and Councillor John McMahon. *Photo courtesy of the Oberon Review*

Top: In eighty years, softwood plantations have expanded to cover 65,000 hectares in the central tablelands. *Photo Forests NSW Image Library*

It was the idea of Kevin McGrath, community services director of Oberon Rotary Club, to commemorate the region's first plantation pine tree.

The plaque was unveiled in May by State Member for Bathurst, Gerard Martin, who said the day represented a milestone for all people associated with the timber industry.

– Sarah Chester
Public Affairs, Albury

Sharing ideas for community involvement in forest management

Members of The Ourimbah Protocol travelled to Victoria in May to share ideas with people involved in the development of community management of Wombat State Forest, a native forest 75km north west of Melbourne.

The Ourimbah Protocol is a partnership between Forests NSW, community groups and businesses on the New South Wales central coast to foster opportunities for the broader community to become involved in the management of public forests. Their aim is to improve the social, cultural, environmental and economic benefits arising from the management of 65,000 hectares of State forests in the area.

In Victoria, the communities of Daylesford and surrounds, in conjunction with the Department of Sustainability and Environment, are developing strategies to enable effective community involvement in the management of local forests.

Forests NSW Hunter Region planning manager, Mike Pryjma, said that given the similarities between what the two groups were trying to achieve, it was a great opportunity to learn from each other's experiences.



"We were fortunate to be given the opportunity to attend a number of key stakeholder meetings to see first-hand how the process works, as well as undertake a guided tour of Wombat State Forest," Mike said. "We also attended the inaugural Australian meeting of the Global Caucus on Community-based Forest Management, an international movement that promotes the rights of local communities and indigenous peoples to manage forests.

"The representatives of The Ourimbah Protocol partners gained valuable insights, especially about facilitating broader community engagement.

"Forests NSW will continue plans for broadening community engagement across the region, based on the framework built by The Ourimbah Protocol," Mike said.

– Leah Flint Public Affairs, Sydney

Members of The Ourimbah Protocol on a tour of Wombat State Forest in Victoria. *Photo by Mike Pryjma*

BUILDING ON A PROUD HERITAGE

Experienced agribusiness leader takes the reins

Barry Buffier took up the position of the director-general of the Department of Primary Industries upon its formation on 1 July, 2004.

On his first day in the position, Mr Buffier told staff that the new department would build on the proud heritage of four highly professional and well-respected departments.

"This amalgamation will build on our strengths: world class science for primary industries, effective partnerships with industry and a world class track record in fisheries, forestry, mineral resources and agriculture," Mr Buffier said.

"These industries make a contribution of 40 to 50 per cent to the total economic activity of regional NSW. This contribution underpins many other significant industry, support and service sectors."

Mr Buffier has a proven track record in agribusiness and finance, both in the private and public sectors.

He began his career with NSW Agriculture at Tamworth, where he worked

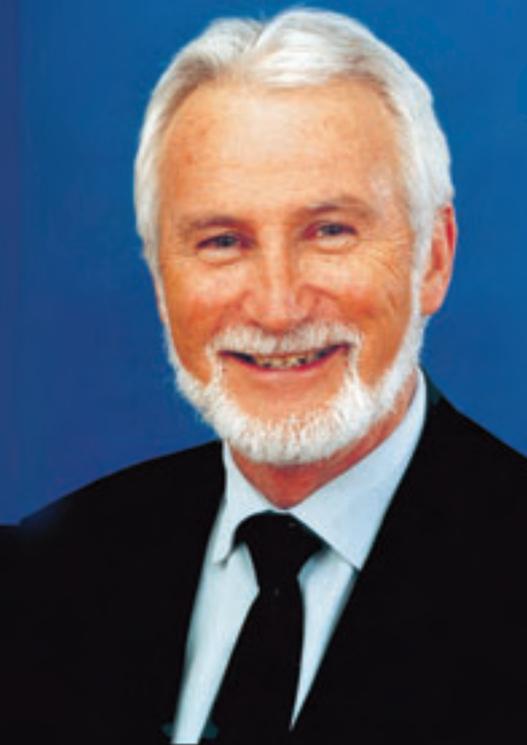
as an economist and marketing specialist. He was appointed executive director in 1985 and deputy director-general in 1991. In 1997, Mr Buffier received a Churchill Fellowship for farm business management.

In 1993 he took up the position of national manager, Agribusiness with the Westpac Banking Corporation, and then was also appointed as general manager of Regional Banking for NSW.

Mr Buffier has served on the board of many bodies, including the Rural Industries Research and Development Corporation, the NSW Rural Assistance Authority, the National Rural Advisory Committee, and as chairman of the NSW Poultry Meat Industry Committee. In addition, he was a non-executive director of Ricegrowers' Co-operative Limited.

Born and raised in the Hunter Valley, Mr Buffier was awarded a Bachelor of Rural Science (Honours) and Masters of Economics from the University of New England.

The formation of the NSW Department of Primary Industries (DPI) is forging ahead, with the new organisation officially coming into being in July. It incorporates the former NSW Departments of Agriculture, Fisheries and Mineral Resources, and the public trading enterprise, State Forests of NSW.



The NSW Department of Primary Industries is headed by experienced agribusiness leader Barry Buffier.

Executive management team injects energy and focus

Barry Buffier announced his executive management team in early July. He said the team would help rapidly establish a single department focused on the primary industries of the State, providing a balance between profitability and protection of natural resources.

Forests NSW chief executive, Peter Duncan, is part of the team and will head up the commercial trading arm of the new department, building on State Forests' role as a trading entity. He is joined by deputy director-general Primary Industries Agriculture and Fisheries, Dr Richard Sheldrake, who will lead the vitally important farming and fishing program areas.

Alan Coutts has been appointed deputy director-general Mineral Resources and will ensure the responsible assessment, development and management

of the State's mineral resources. The deputy-director general Primary Industries Science and Research is Dr Mike Curll. He will integrate DPI's scientific and research focus into an effective, leading-edge resource of innovation and relevant scientific discovery that responds to industry needs.

Executive director Biosecurity, Compliance and Mine Safety is Renata Brooks. She is responsible for maintaining the State's enviable record in preventing and controlling plant and animal diseases and implementing appropriate compliance operations.

Dr Alan Gleeson has been appointed executive director Corporate Services and is responsible for integrating the components of the four former agencies' corporate administration into one efficient unit.

The executive director Strategy and Policy is Wendy Stamp who will lead the division that will set the strategic dimensions for the unified new department.

"The appointment of my top level executive management team provides an opportunity to inject a new sense of energy and focus into the State's most important primary industries," Barry Buffier said.

Leah Flint Public Affairs, Sydney

Watching-out for forest water



Recent drought conditions have highlighted the importance of water to our everyday lives; but to Dr Ashley Webb, water quality manager with Forests NSW, this vital resource has an even greater meaning. Howard Spencer reports.

Ashley and his team of researchers across the state are involved in several long-term studies to determine water quality in selected catchments in both native forests and softwood plantations throughout NSW.

Effectively acting as filters, forests in the headwaters of catchments play a significant role in maintaining downstream water quality and supply.

"We want to know the potential impacts of forestry activities on water quality," Ashley said. "It might seem a simple fact to the casual observer that water in creeks and rivers will be dirtier during rain periods. What we want to know is by how much, for what period of time and how far downstream that effect might last in areas harvested for timber compared to non-harvested areas."

That is not so simple. Water that passes by Ashley's measuring stations has to be tested for turbidity (how 'cloudy' the water appears) and for sediment levels (how much sediment such as soil is suspended in the water).

It is made easier by a series of instruments anchored to creek beds, with the results automatically logged by data recorders powered by solar energy.

"We read the results and check the stations physically every two weeks, or more frequently in times of wet weather or low sunshine," Ashley said.

The trials are set up in a number of native forests from the north at Kangaroo River State Forest, to the south at Yambulla State Forest, and in softwood pine plantations at Bago State Forest near Batlow and Canobolas State Forest near Orange.

Forests NSW manages the water studies under the provisions of the Environment Protection Licences for carrying out native and plantation forestry.

"The object of the licences is twofold," Ashley said. "They require practical measures to be taken to protect the aquatic environment from water pollution and to ensure that monitoring of the effectiveness of the licence conditions in achieving those goals is undertaken."

"Our water quality monitoring program sets out to determine if there is an identifiable

Clockwise from top:

It is not uncommon for snow to fall during winter in Canobolas State Forest. This station is used to monitor the integrated effects of harvesting operations within a large pine catchment. *Photo by Brad Jarrett*

Data collected at the water quality monitoring sites is stored in a multi-channel datalogger, powered by 12 volt batteries charged by solar energy. The information collected is downloaded to a handheld computer at least every two weeks and entered into a database maintained by Forests NSW. *Photo by Howard Spencer*

Automatic water samplers are activated to pump samples from each monitored stream as the water level rises and falls during floods and weekly during periods of low flow. Each sampler can hold 24 samples which are laboratory analysed for turbidity and suspended sediment concentration.

In small pine catchments flows and water quality are monitored within aluminium flat-weirs such as this one in Canobolas State Forest. *Photo by Brad Jarrett*

Dr Ashley Webb with a turbidity probe in Kangaroo River State Forest. Turbidity and stream height are automatically recorded every six minutes at all of Forests NSW water quality monitoring sites. *Photo by Howard Spencer*





quality

impact on water quality from licensed forestry operations and, if so, to quantify the level of that impact."

Again, as the casual observer might expect, there can be a variation in water quality between non-harvested areas and harvested areas.

"Our figures suggest that in native forest areas, there is a slight but hardly noticeable difference between the two areas, which might last for up to six months before returning to pre-harvest conditions," Ashley said.

"Even then, the water quality is within the accepted drinking water standard."

Ashley said that in the northern study area background flow indicators showed an average of around 4 NTU (nephelometric turbidity units). In major Australian water supplies, turbidity values range between 5 and less than 1 NTU where supplies are filtered and between 1 and 65 NTU for unfiltered supplies.

Suspended sediment concentrations in the same water were at extremely low values in native forest, predominantly less than ten milligrams per litre.

"We might see spikes during storm events, but it quickly settles back to the background level," Ashley said.

The outcome of the trials should demonstrate the effectiveness of the man-made soil conservation measures and natural filter systems put in place during road construction and harvesting operations.

In Kangaroo River State Forest, the trials are being conducted over five catchments. Two will remain unlogged as controls and the harvests in the other three are expected to take place next year.

In pine areas, the control is an area of native forest, with clear-felled plantation areas providing the post-harvest sediment and turbidity comparisons.

The stream flows and turbidity levels are measured every six minutes, and then once a week water samples are collected and examined in a laboratory for sediment and turbidity. During storm events an automatic pump sampler is activated to take extra samples as the stream rises and falls.

"The trials will either confirm or alter our licencing conditions, or show areas for further investigation," Ashley said.

— Howard

Spencer

Public Affairs,
Coffs Harbour



In Chichester State Forest,

near Dungog, eight research catchments have been contributing data to water watchers since 1976.

Some of the catchments are unlogged native forest, some are native forest regrowth and others are eucalypt plantations established after harvesting in 1983.

"We plan to thin the regrowth and plantations in some of the catchments in two years," Dr Ashley Webb said.

"What we are trying to determine is the effect of the thinning regime in harvesting programs on water yields in the regrowth and plantation catchments.

"In the immediate post-harvest period there was an increase in water yields.

"Then as regrowth occurred, around three years after harvest, there was a reduction in water yields as the period of strong growth takes up water.

"At Karuah the yields returned to pre-harvest levels after seven years, then fell below pre-harvest levels as the stands matured.

"We are trying to show that the thinning program can get yields back to pre-harvest levels sooner than previous published opinions have proposed might be the case."

Ashley said that forests across the whole landscape were using water at different levels all the time, so that selective harvesting events in small areas were having little overall effect on water yields in a catchment.

"The Karuah trials are a long-term research study that will provide data for Forests NSW far into the future," he said.

When Hyne comes to town

The small timber town of Tumbarumba, in the south west slopes of New South Wales, will cement its reputation as a prime timber producer following further investment in local sawmilling facilities by Hyne & Son.

Tumbarumba is central to the biggest pine growing area in Australia and this mighty resource has drawn Hyne & Son to town. The company is midway through a massive expansion program at Tumbarumba, which will see the group spend in excess of \$80 million.

With more than 120 years industry experience, Hyne is the largest privately-owned timber company in Australia. It is also Australia's largest exporter of solid wood products.

Production from the company's three softwood and five hardwood mills and manufacturing facilities is marketed through a chain of wholesale outlets stretching from Cairns in the far north of Queensland to Melbourne in Victoria.

Hyne employs 1,000 people directly, with 150 employees based at Tumbarumba. The company forecasts annual sales in excess of \$300 million in the current financial year.

Chairman of the board of Hyne & Son, Richard Hyne, is a fourth generation Hyne who has been in the business for 40 years and is very proud of the fact that the company is still privately-owned.

"It is free of short-term pressure from its shareholders to maximise share value and, as a consequence, has a great advantage in being able to take a long-term view in developing its strategy – an essential attribute when operating within the time horizons of the timber industry," he said.

The Hyne story began way back in 1864 when Richard Matthews (R.M.) Hyne arrived in Moreton Bay with his young wife and a burning ambition to succeed in Australia.

The Hyne family began its timber interests in 1882 when it established a sawmill at Maryborough, Queensland, working with hardwood timbers as well as kauri and hoop pine.

It was reported in the Maryborough Chronicle that R.M. Hyne had established a sawmill that could stand comparison with the best in the colony.



Richard said R.M. Hyne was a "very progressive sort of a guy" who was mayor of Maryborough and had served for some time in the Queensland Parliament.

Of Richard's own father, Lambert Hyne, who joined the company in 1921 and served until his death in 1985, Richard said he was a relentless driver of the industry and remembered universally for his many industry innovations.

"Above all he will be remembered for his recognition of the potential of the softwood plantation industry," he said.

Richard said the company's Tumbarumba plans were in the middle of the development phase and the mill would be the largest in the Hyne group and well inside the top ten worldwide.

Hyne is lifting the annual log intake capacity of its Tumbarumba sawmill purchased in 2001, from 140,000 cubic metres to 800,000 cubic metres during the next three years.

It will also be developing additional secondary processing facilities to further add value to the available sawlog resource.

"Our aim is have an internationally competitive softwood production facility at Tumbarumba achieving world-class standards of production and efficiency," Richard said.

"It is no exaggeration to say we are passionate about what we are doing and we are excited about our future, especially in Tumbarumba."

– Sarah Chester Public Affairs, Albury

Above: An early photograph of the original Hyne & Son sawmill at Maryborough, Queensland.

Below: Hyne is lifting the annual log intake capacity of its Tumbarumba sawmill to 800,000 cubic metres during the next three years. Photos courtesy Hyne



SEEKING OUT HIDDEN FOREST INHABITANTS

Sphagnum frogs, yellow-bellied gliders and glossy black cockatoos. Three very different native animals. All are listed as threatened species. Each is regularly encountered by staff undertaking surveys in State forests.

The signing of Regional Forests Agreements (RFAs) in New South Wales five years ago placed a spotlight on a host of threatened and endangered plants and animals that had previously led a somewhat secluded life.

"The RFAs saw us establish a rigorous regime of ecological surveys," Forests NSW North East Region ecologist, Paul Meek, said. "While such surveys were a feature of previous legislative requirements, the new regime is more complex."

Forests NSW trained staff to undertake pre-harvesting surveys for threatened and endangered species.

The results have been a surprise to many and possibly a saviour for a handful of plants and animals that might have suffered further losses without close examination.

"I think it is safe to say that we know as much, if not substantially more, about the flora and fauna that inhabit our estate than any other land manager does of their territory anywhere in the country," Paul said.

"Each survey record of the listed species is entered into the Forests NSW database and included in the Department of Environment and Conservation Atlas of NSW Wildlife."

The atlas is an inventory of the State's flora and vertebrate fauna.

Ecologists and their teams have a number of stories to tell about how surveys for endangered species have shown their presence in State forests in far larger numbers than previously thought.

"Yellow-bellied gliders and glossy black cockatoos have been on the list for some time, but they turn up in a high propor-



tion of surveys in State forests north of Sydney," Paul said.

"One plant species, *Cryptandra longistaminea*, is common in NSW, but was listed as a threatened population near Grafton. We trained people to look for it and found about 2,000 plants in Glenugie, Bom Bom and Divines State Forests."

To remove any species from the endangered species list involves a submission to the NSW Scientific Committee, which evaluates the information presented and decides if there is any risk of population decline or extinction based on the new information.

Forests NSW has, in the past five years, established that it has an unrivalled record in finding threatened species.

Some argue that it is time to move on to a regime of monitoring how species respond to disturbance or otherwise as a basis for determining how to manage them into the future.

"We have been counting *Boronia umbellata* plants since 1998," Paul said. "Our researchers began looking at how the plant responded to no disturbance and found

that it almost disappeared. After disturbance by roading and logging, in one 50m by 30m transect there were 390 plants, and in another 480, but in another location there were so many plants the whole population couldn't be fully counted."

Now the focus is turning to woodland birds, some of which have been recently added to the endangered species list.

"The remaining woodland habitat on the coast and tablelands is precious because it has been removed elsewhere by past land management practices," Paul said. "In one recent week we recorded three groups of three grey crowned babblers in one coastal forest near Grafton."

Another newly listed woodland bird species is the brown tree creeper.

"They were regarded as common on the north coast as they were seen so frequently. Now that they have been listed, our ecology teams will be keeping an eye out for them and expect the Atlas numbers to increase markedly."

Some frog species have turned up in so many surveys that they are regarded as having quite healthy populations in the area west and north of Coffs Harbour.

One is the sphagnum frog.

"Once we started looking on the north coast, we found lots of them," Paul said. "But they are listed because we don't know much about them."

"What we have found is that many species are much more robust and prevalent than was originally thought, all because we are looking and finding them as part of the process of managing State forests."

Howard Spencer Public Affairs, Coffs Harbour

Left: A variety of threatened species have been uncovered during surveys of State forests, including this population of eastern bentwing-bats (*Miniopterus schreibersii* subsp. *Oceanensis*) near Coffs Harbour. Photo by Brian Tolhurst

Below: Ecologist Paul Meek and forest assistant (ecology) Brian Tolhurst, take a close look at a juvenile powerful owl which was thrown from a nest in a State forest near Coffs Harbour.



Smoke was a common sight throughout winter, as land managers and fire authorities embarked on major hazard reduction burning programs during very favourable conditions.

Residents of coastal communities such as Eden, Batemans Bay, Gosford, Wauchope and Coffs Harbour couldn't have missed seeing the smoke rising from 'good' fires burning nearby. Sydneysiders too would have seen the evidence of strategies to limit the impacts of summer bushfires as fuel levels were reduced in State forests, national parks and other public reserves around the city.

Forests NSW fire manager, Paul de Mar, said that 56,000 hectares of State forest had been subject to hazard reduction burning in the 2004 autumn and winter burning season. He said smoke was a natural and unavoidable by-product of such hazard reduction burning but that it was sometimes a source of community concern.

"Summer bushfires often have widespread, high concentration smoke impacts for long periods," Paul said. "The Christmas bushfires of 2001 blanketed Sydney in heavy smoke exceeding national environmental protection thresholds for a more than a week.

"By comparison, the smoke from hazard reduction burns, whilst adding to the major sources of particulate pollution (including industrial and transport emissions and smoke from home wood-heaters), has a much shorter, localised and lower level impact."

Paul said that in spite of increased hazard reduction burning carried out this year, pollution monitoring has not registered levels above the national environmental protection thresholds.

A good winter for good fires

"Measures are taken to minimise smoke impacts. We avoid burning during peak tourist periods and place warning signs along affected roads to warn motorists.

"Wherever possible, we undertake burning when wind conditions will disperse smoke away from residential areas."

So, according to Paul, if there is such a thing as 'good' smoke, then surely it is smoke from hazard reduction burning.

"It is absolutely necessary to help reduce the sometimes tragic consequences of uncontrolled high intensity bushfires," he said.

Paul said that the terms 'hazard reduction' and 'backburning' were often used interchangeably in media reports, but they were in fact very different things.

"Hazard reduction involves reducing or removing fuels (usually leaves, bark and twigs) from the forest before the onset of a bushfire to protect people, property and forest assets," he said. "It takes careful planning, preparation, and execution by experienced and highly-trained staff.

"Fires need three things – oxygen, heat and fuel – and fuel is really the only one that we can have an impact on. By reducing fuel levels over winter, we can influence the way fires will behave over summer."

Backburning is a technique employed by firefighters in a summer bushfire emergency to rapidly limit the level of fuels in the immediate path of a blaze.

Apart from the benefits of 'good' fires for community safety, there are less well understood benefits for the environment too.

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

"There's a firefighter's adage – 'a little smoke in autumn and winter sure beats an inferno in summer'. I think most people would agree, especially when facing a long, dry summer as we expect this year."

– Leah Flint Public Affairs, Sydney



Impressive collection boasts 50,000 insects

To most, the humble Christmas beetle is nothing more than a colourful summer-time nuisance, interrupting evening barbecues or scurrying across thonged-feet. But for Forests NSW researchers, this beetle is the 20,000th insect to be entered into a new electronic database of timber pest species. Emma McMahon reports.

"The database is an exciting new way of cataloguing our priceless collection of forest and timber insects," Forests NSW forest entomologist, Dr Deborah Kent, said. "The collection has more than 50,000 specimens that have been acquired over the past 80 years. It includes both native and exotic species and having a computerised system will greatly improve access to information about the different insects."

The collection consists of a wide range of insects occurring in native forests and eucalypt and pine plantations in New South Wales, including beetles, termites, moths and wood wasps.

Deborah said the database includes detailed information on the insect's classification, distribution and preferred host plants, while the collection itself is a valuable resource for Forests NSW staff, foresters, timber inspectors, quarantine officers and members of the public seeking information or identification of forest and timber pests.

"Insects continue to be a significant threat to the health of hardwood plantations in New South Wales," she said. "Increased accessibility of pest information via the new database will be useful for everyday management of State forests, as well as long-term planning.

"Insects have the potential to significantly affect forest health and timber quality, which can impact on both biodiversity and the commercial timber industry," Deborah said. "Many beetles, caterpillars and psyllids feed on the leaves of native trees, causing

defoliation and stunted growth, while both beetle and moth borers drilling into stems and branches can damage the resulting timber and introduce fungal decay.

"Many of the foreign specimens that have been brought to us by quarantine inspectors are found hidden in some very unusual items," she said. "My favourite would have to be what I called the 'Trojan Pig', an ornamental timber carving purchased as a souvenir in Vanuatu. Several small pin-like holes on its surface were the only indication of an ambrosia beetle infestation of more than 100 exotic insects inside.

"Another involved a carved wooden dog that seemed to be 'growling' at its owner. We later discovered the sound was actually being made by longicorn beetle larva chewing through the wood!"

— Emma McMahon Public Affairs, Sydney

Left: This innocuous looking carving confiscated by quarantine inspectors was found to contain more than 100 exotic insects when examined by Deborah. Photo courtesy Deborah Kent

Below: Forests NSW entomologist, Dr Deborah Kent, with some of the 50,000 insects in the organisation's entomological collection. Photo by Emma McMahon



Just one of the 50,000 insects in the Forests NSW collection ...

Ambrosia beetle (*Austroplatypus incompertus*)

A wood-boring beetle that lives in horizontal networks of tunnels, or galleries, in the heartwood of eucalypts. One of more than 300 species of ambrosia beetles worldwide, it distributes fungi within the galleries to provide food for itself and its larvae. The fungus typically stains the timber black and causes pencil streaking along the wood from the pith outwards.

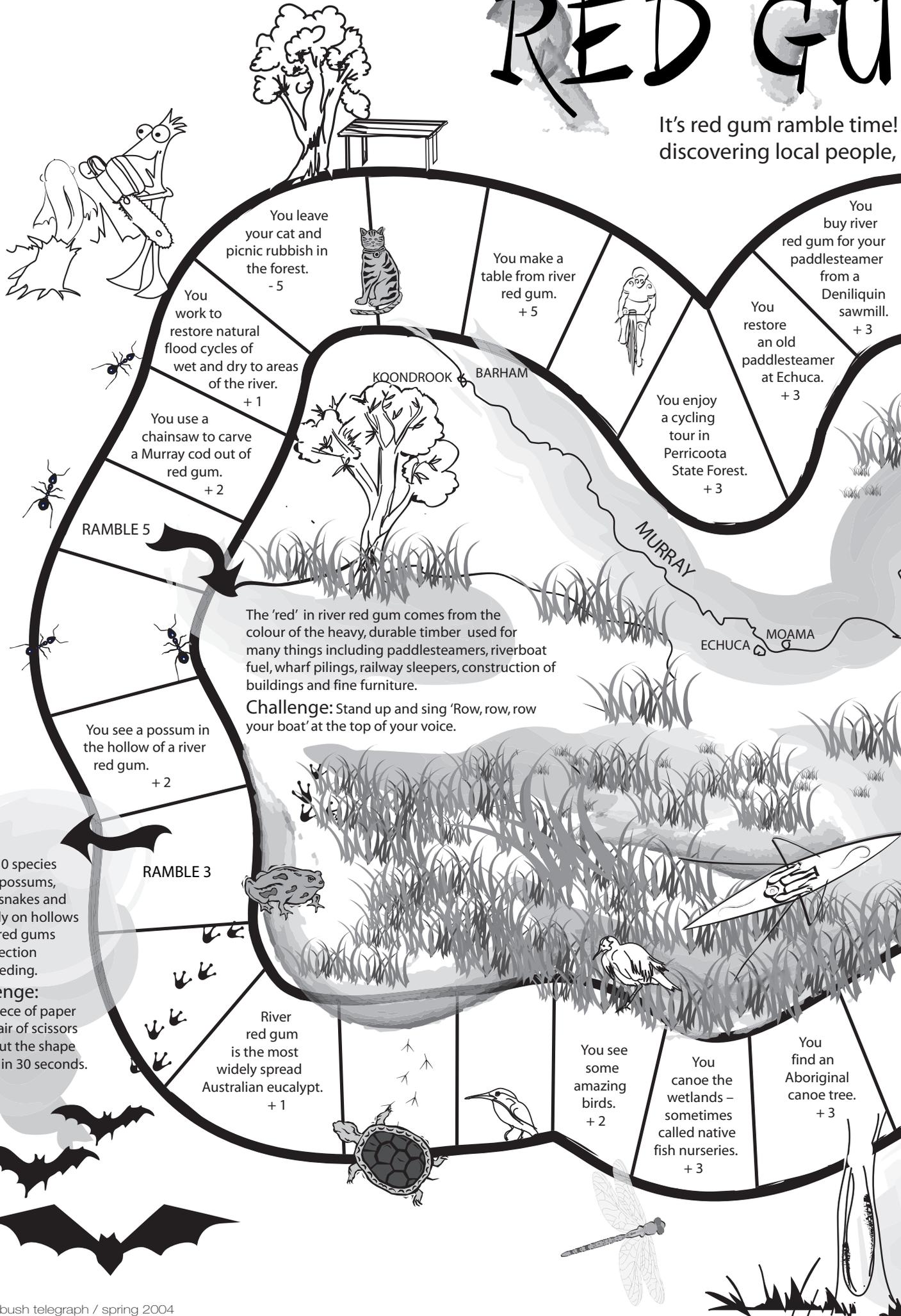
Adult beetles are cylindrical, reddish brown in colour and approximately 6mm long. Full-grown larvae are about the same size as an adult beetle, with a creamy white legless body, a yellowish brown head and dark brown jaws.

It is unique because it is the only beetle that lives socially. Like bees, wasps and ants, the beetles live in colonies with a large number of sterile daughter workers dedicated to serving a single reproductive female.



RED GUM

It's red gum ramble time!
discovering local people,



You leave your cat and picnic rubbish in the forest. -5

You work to restore natural flood cycles of wet and dry to areas of the river. +1

You use a chainsaw to carve a Murray cod out of red gum. +2

RAMBLE 5

You see a possum in the hollow of a river red gum. +2

RAMBLE 3

River red gum is the most widely spread Australian eucalypt. +1

About 50 species of bats, possums, gliders, snakes and birds rely on hollows in river red gums for protection and breeding.

Challenge:

Use a piece of paper and a pair of scissors to cut out the shape of a bat in 30 seconds.

The 'red' in river red gum comes from the colour of the heavy, durable timber used for many things including paddlesteamers, riverboat fuel, wharf pilings, railway sleepers, construction of buildings and fine furniture.

Challenge: Stand up and sing 'Row, row, row your boat' at the top of your voice.

You make a table from river red gum. +5

You restore an old paddlesteamer at Echuca. +3

You buy river red gum for your paddlesteamer from a Denilquin sawmill. +3

You enjoy a cycling tour in Perricoota State Forest. +3

You see some amazing birds. +2

You canoe the wetlands – sometimes called native fish nurseries. +3

You find an Aboriginal canoe tree. +3



MURRAMBLE

Join the adventure and cruise the Murray River forests and wildlife. Do some silly stuff too.

You will need:

- Dice, counters, scissors, paper, sticky tape, pencil and score pad.

How to play:

- Start your counters on RAMBLE 1, throw the dice and move your counters in a clockwise direction.
- Keep a score of your points. The first player to 30 points wins the game.
- RAMBLES - If you land on one of the RAMBLE squares, find the RAMBLE information around the game. READ the information aloud and attempt the challenge, the other players must judge your performance. If you carry out the RAMBLE you receive 2 bonus points. If you attempt the RAMBLE but don't succeed you receive 1 point. If you don't attempt the RAMBLE you receive 0 points.

RAMBLE 1 (start)
You visit a sawmill to see what happens to a tree after it is harvested. +3
Challenge: Do an impersonation of a great egret.

RAMBLE 2
You catch 20 feral fish called carp and remove them from the river. +4
84,000 hectares of forest used for timber, recreation, wildlife and heritage conservation in the central Murray region are listed as Wetlands of International Importance under the Ramsar Convention. Wetlands are listed if they are representative, rare or unique examples of a natural wetland type.

RAMBLE 3
Your research reveals controlling the floodwaters of the Murray has changed natural river processes threatening the health of river flora and fauna. -3
This area has been home to the Yorta Yorta people for more than 40,000 years and there are many sites of significance including ancient kitchen middens, oven mounds and 'canoe trees'.
Challenge: Use one piece of paper and sticky tape to make a canoe.

RAMBLE 4
Controlling the floodwaters of the Murray means water is available all year round for drinking, irrigation and farming. +1
While walking in the forest, you step on young seedlings. -3
Challenge: Role play a flying insect feeding on a seedling.

Other sections:
You use carp fertiliser on your garden. +2
Livestock and recreation have run down Five Mile Reserve, Moama State Forest. -4
Local organisations provide money and the community revitalises Five Mile Reserve. +4
You catch a Murray cod, take a photo and release it back into the river. +5
Moisture, temperature, competition from plants and grazing by insects and other animals affect river red gum seedling growth.

Labels: RIVER, TOCUMWAL

International students tour south coast forests

State forests on the south coast of New South Wales became the outdoor classroom for 13 forestry students from the Agricultural University of Norway in June.

The students and their professor were treated to a guided tour of Forests NSW

operations and forestry management, including hazard reduction burning, thinning and harvesting operations.

"The students were particularly interested in the complexities of our native forest management," Forests NSW South Coast plan-

ning manager, Ian Barnes, said. "There are only two tree species of significant commercial value in Norway – Norway spruce and Scots pine – so they were curious to learn how we manage stands of multiple timber species.

"Emphasis was placed on silviculture, fire and environmental management as essential aspects of our forestry operations," Ian said. "In Norway, clear-felling in native forests is standard practice, and the students were interested to hear about our strict environmental policies and procedures."

Ian said it was important to assess domestic forestry operations in an international context.

"The standard of Australia's forestry practice is considered world class, a position which is reaffirmed by the positive response of our international visitors," he said.

– Emma McMahon Public Affairs, Sydney

Students from the Agricultural University of Norway toured State forests on the south coast during a recent study tour. Photo courtesy Ian Barnes



Student puts forward alternative view

Heidi Stelling, daughter of marketing forester Phil Stelling, writes to Bush Telegraph about a recent presentation ...

As part of our college assessment, each member of my grade 11 English class was asked to make a ten-minute presentation on an issue of our choice. I decided on the topic of 'Logging in New South Wales'. I wanted to inform the class on the realities of logging, as I noticed many of my classmates had portrayed it as a bad thing for so long.

I knew that I could take advantage of my Dad working for Forests NSW, and pick his brains on the subject. My speech answered four major questions: what is logging, why is it done, how is it carried out, and what are the benefits?

It is safe to say that most of the class were already aware of what it was and why it is done, but were greatly misinformed on how, and its benefits. As a result of my speech, the class was able to learn about selective logging, the difference between native and plantation forests, and that there are many protected forests throughout the country.

My favourite part was when I talked about the benefits. I went into detail about how logging decreases the greenhouse effect, brings in income to further manage and protect our forests, and provides many jobs in the logging industry, including my Dad's job. I argued that people simply need timber, and if we don't produce our own, it will only end up being taken from other poorer countries that don't manage their forests properly.

At the end of my speech, I had a lot of my classmates approach me and say that they had never heard logging sound so good! I guess that logging is made out to be a bad thing in society these days often because people aren't aware of the realities of logging. I know I certainly learnt a lot myself. I'd like to thank my Dad for helping me and teaching me so much. It got me an A!

– Heidi Stelling

Year 11 student, Canberra



Our web site has the latest information on forests and forestry in NSW, including an 'assignment buddies' section. Check it out at www.forest.nsw.gov.au

september – november 2004 events

- 1-31 September National Biodiversity Month
www.deh.gov.au/biodiversity
- 5-11 September Keep Australia Beautiful Week
www.kabq.org.au
- 12 September Early Bird Brekky – have breakfast with the birds at Cumberland State Forest from 8am. Bookings essential. Adults \$12, children \$6
For bookings Ph: 1300 655 687 or (02) 9871 3377
- 13-17 September Strickland Forest Expo – Strickland State Forest
An environmental education event for upper primary school students presented by Forests NSW, Rumbalara and Taronga Zoo Environmental Education Centres
Carmen Perry Education Coordinator Ph: (02) 4927 2900
- 19 September Insects and Reptiles – kids learn about frogs, turtles, snakes and spiders in this educational program at Cumberland State Forest. Bookings essential. \$5.50 per person, \$18 per family
For bookings Ph: 1300 655 687 or (02) 9871 3377
- 1-31 October National Bushcare Month – National Heritage Trust, Environment Australia
www.nht.gov.au/nht1/programs/bushcare
- 2-4 October Beatin' round the Bush Festival Euabalong, 27 km from Lake Cargelligo – a range of activities including arts and crafts, bush poetry and Indigenous cultural activities. Forests NSW will be present at this event
Julie Ingram Ph: (02) 6869 6604
- 10 October Early Bird Brekky – have breakfast with the birds at Cumberland State Forest from 8am. Bookings essential. Adults \$12, children \$6
For bookings Ph: 1300 655 687 or (02) 9871 3377
- 16-24 October National Weedbuster Week
www.weedbusterweek.info.au
- 17 October Cumberland State Forest Open Day (9am – 4:30pm)
A great family day out with children's craft and entertainment, great food and demonstrations. Entry is free
Cumberland State Forest Ph: 1300 655 687 or (02) 9871 3377
- 19-25 October National Bird Week
www.birdsaustralia.com.au
- 18-22 October Bush, Birds and Weeds – an environmental education event at Cumberland State Forest aimed at primary school students to celebrate Bushcare Month, Bird Week and Weed Buster Week in October
Cumberland State Forest Ph: 1300 655 687 or (02) 9871 3377
- 3-4 November Arts in the Forest – an action-packed acrobatic display by the Flying Forest Adventure drama group at Cumberland State Forest. Bookings essential.
For bookings Ph: 1300 655 687 or (02) 9871 3377
- 7 November Insects and Reptiles – kids learn about frogs, turtles, snakes and spiders in this educational program at Cumberland State Forest. Bookings essential. \$5.50 per person, \$18 per family
For bookings Ph: 1300 655 687 or (02) 9871 3377
- 8-14 November National Recycling Week
www.planetark.org
- 14 November Early Bird Brekky – have breakfast with the birds at Cumberland State Forest from 8am. Bookings essential. Adults \$12, children \$6
For bookings Ph: 1300 655 687 or (02) 9871 3377



Holiday trip for teachers

Spending a day of your holidays completing a training course sounds unattractive to most people, but twenty dedicated teachers did just that during their winter vacation in July.

Keen to explore the educational opportunities on offer at Cumberland State Forest in Sydney and Strickland State Forest near Gosford, the group spent the day walking popular education trails, hearing from guest speakers on wildlife, fire and forest management and finding out about the latest resources for schools.

"Teachers are busy people, so a few years back we began professional development trips during the school holidays," Forests NSW education coordinator, Carmen Perry, said. "This was the first one-day trip and, given its popularity, it is sure to become a permanent addition to our regular bus trip program."

Free bus trips have been offered to educators for the past eight years. The one and two day trips take in the native State forests of the central coast and the pine planted forests around Bathurst.

For more information log on to our education webpages at www.forest.nsw.gov.au/education, or call one of our education officers on Ph: (02) 9871 0050 (Sydney) or (02) 4927 2900 (Newcastle).

– Gerard Nolan Education officer, Sydney

Teachers enjoying their day out in the bush on a guided tour of Strickland State Forest. Photo by Carmen Perry

hot off the press

– our latest publications

Virtual stuff – New info on our web site

Reporting

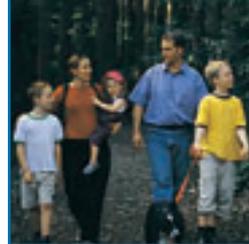
State Forests Annual and Social, Economic & Environmental Reports 2002/2003 are now online, along with a new Facts & Figures.

Go to www.forest.nsw.gov.au/publication

These publications are also available in hardcopy from Forest Shops all over NSW. To locate your nearest Forest Shop or to order these publications call 1300 655 687, fax (02) 9872 6447 or email cumberland@sf.nsw.gov.au

Cumberland State Forest

– a unique urban forest in Sydney's north west



Looking for an outdoor adventure in the city?

Then look no further than Cumberland State Forest in West Pennant Hills.

Forty hectares of eucalypts and magnificent planted pines are waiting to be explored via walking trails passing through towering blue gums and gigantic bunya pines.

Barbecues and picnic tables, a native plant nursery and café are all on-site. Dogs are welcome on leads and our Sensory Trail is stroller and wheelchair-friendly.

Plus, there's a range of inexpensive school holiday and community activities, in addition to volunteer ranger and bush regeneration programs.

Why not come and join us?

escape

into adventure

...Cumberland Open Day

Sunday 17th of October
from 9am to 4pm

FREE admission



For everyone who likes to get outdoors, the open day will showcase many of the great recreational activities enjoyed in State forests.

Pony and camel rides • bush band • food stalls • outdoor play featuring aerial acrobatics • orienteering and rogaining • guided walks • recreation stalls • four-wheel drive and mountain bike info • woodworking • firefighting helicopter • and much more...

95 Castle Hill Road, West Pennant Hills

(in Sydney's north western suburbs)

Ph: (02) 9871 3377 or 1300 655 687

www.forest.nsw.gov.au/cumberland

