



# SAVANNA LINKS

Cooperative Research Centre for the Sustainable Development of Tropical Savannas

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## The bush online: getting up to speed

**M**uch has been written and broadcast recently about telecommunications services to the bush, or lack of them, as the Federal Government moves to sell off the remaining 51 per cent share of Telstra. While the debate has focused primarily on telephone services, one of the greatest areas of concern for northern Australians is access to the Internet. How fast is Internet access? How much does it cost compared to urban areas? What online opportunities will exist in the near future?

The argument in the bush goes back to the universal service obligation: the Commonwealth doctrine that all people in Australia, wherever they reside or carry on business, should have reasonable access, on an equitable basis with those in southern capital cities. Telstra is the current universal service provider, but as anyone living in a remote area can testify, their service does not compare equitably in substance or in price with those in urban centres. "The anecdotal feedback I'm getting is yes, people are getting online, but they're not finding it a very enjoyable experience because of the speed problems," says Graeme Sawyer, of QANTM, Queensland and Northern Territory Multi Media, a telecommunications monitoring group.

Research undertaken by the Rural Industries Research & Development Corporation (RIRDC) shows more than 20 per cent of farm households are connected to the Internet—proportionally one of the highest rates in the world, and the numbers are growing. The figures are less for other users in rural and remote areas in Australia.

Anyone can get online as long as they have a phone. But the quality of service is directly influenced by how far you are from a major centre or an Internet Service Provider (ISP). A server can be hundreds of kilometres away, so each time you dial up to get online, it's a timed STD call. Simply getting online to access email in the bush can be an exercise in frustration. Telstra's DRCS (Digital Radio Concentrated System) is more than 15 years



*Internet usage in regional and remote areas is growing, but is hampered by slow download times and high cost*

old. Calling up a website in some areas is slow to the point of being unusable except for email. It's not a service on equal footing with southern communications.

Telstra does have a faster system available from Big Pond but there is an infrastructure cost. You call up the web address over the phone line then the information is downloaded by satellite at high speed. That drops the high download cost and speeds up the process but an external dish is required. "The technology is there now, but the question is whether people can afford to run it," explains Sawyer. "It's one thing to pay \$1500 (for a dish) to access the service, but it's another to keep up with the ongoing running costs." Optus is soon to become a competitor in this area using their four existing satellites, but again, at a cost.

The problem is not all with the communication infrastructure however. The RIRDC report showed only too clearly that the design and content of many websites can present significant obstacles themselves. It found that few organisations conducted research into users' needs and many do not monitor usage of their site; a majority of sites are only updated occasionally; many organisations devote few, if any, additional resources to their website and far too many sites are not designed to take account of the needs of users with poor phone lines. The use of the web as an interactive medium is rarely used either.

*Continued on page 2*

# The bush online: getting up to speed

It's not all bad news for remote areas. Nhulunbuy, at the eastern tip of Arnhem Land, is far from a major centre but has three local Internet Service Providers. Kelvin Leitch, executive officer of the Dhimurru Land Management Aboriginal Corporation in Nhulunbuy does struggle with slow download times, but at least he no longer pays STD rates for the connection thanks to the local ISP.

"The Internet is a fabulous research tool," says Kelvin who is now finding an increasing number of useful sites to visit. It also has transformed the way he communicates. "Over the last few years I've cut down on my snail mail and faxes by around 80 per cent," he said.

Recently Kelvin was tracked down on the web by conservation agency officials from Hawaii who will soon visit Nhulunbuy to talk about involving indigenous people in land management in the United States.

Pastoralist Margaret House at Fortuna Station in Queensland's Desert Uplands, is also catching the Internet bug. She uses email daily, both in a business capacity and as part of the Desert Uplands Build-Up and Development Strategy Committee (DUBDSC). The committee launched its own website last year.

"I think it has terrific potential: it's great from a land-care group point of view," she said. "It's very worthwhile, it lets us advertise to other groups what we're doing. Also, in the cities they don't really know what goes on in the bush—so I see it as a way to improve communication there too."

E-commerce and Internet banking are other major potential uses of the Internet. The RIRDC reports state "electronic commerce is growing strongly, and is expected to grow to around 0.5 per cent of all transactions in a few years, and possibly as much as 20 per cent of all transactions in the next 10 years."

For example, Margaret and her husband are also exploring the potential of commerce on the web for their cattle. They were so impressed with one site, where cattle can be both bought and sold over the Internet that they will be purchasing a photo scanner in the near future to get pictures of their own stock online.

"The more people advertise, the more it will work," she says.

Jane Moore of Jabiru in the NT's Kakadu National Park, publishes a newsletter *Bush Buzz*, and sees a role for the Internet in bush culture. "I can foresee the Internet taking over the old Radio Galah sessions where five or six women within one hundred kilometres of each other are just having a chat," says Moore. "Email can possibly even do it better because you can sit down and put it on or read messages in your own time."

One *Bush Buzz* article attacked federal and state governments for not living up to the universal service obligation in the provision of bush Internet access, with the extra expense detrimental to the delivery of modern education. "Parents of isolated children must demand from government equality of access for their children," stated Robert Chirgwin, keynote speaker for the ICPA (Isolated Children's Parents Association) annual conference. "This means fast access at the same cost as children in the major cities. The technology is there, but is the will?"

By Dennis Schulz Contributors: Kate O'Donnell & Peter Jacklyn

RIRDC Short Report No. 58:

*Farmers and the Internet*

RIRDC

[www.rirdc.gov.au/home.html](http://www.rirdc.gov.au/home.html)

(Publications, then Short Reports)

SALO Trading (of livestock)

[www.salo.com.au](http://www.salo.com.au)

For help on using the Internet

Netscape Communicator:

<http://home.netscape.com/netcenter/newnet/index.html>

Yahoo: <http://howto.yahoo.com/>

Microsoft: [www.microsoft.com/windows/ie/newuser/default.asp](http://www.microsoft.com/windows/ie/newuser/default.asp)

## TS-CRC: Linking the North

The Tropical Savannas CRC is a joint venture of the major organisations involved in land management of the savannas of north Australia. It comprises three universities, three divisions of CSIRO, four NT, three Queensland, two WA government agencies and one federal agency. The Centre promotes sustainable conservation and use of Australia's tropical savannas by acting as a bridge between agencies engaged in land-management research and industries representing land users: e.g. pastoralists, Aboriginal groups, the tourist industry and conservation managers; and by looking for ways to ensure more research ends up being used on the land.

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More contact details on page 12

## First workshop for Burdekin study

**The TS-CRC's first workshop for its Burdekin Management Study (BMS) was held in Townsville at CSIRO's Davies Lab in February. The half-day workshop brought together agency personnel from the region to discuss the products and framework of the first stage of the study.**

**The first product to be developed over the next year is a 'Green Book' which will bring together as much information as possible that already exists on the ecology and management of the Upper Burdekin Catchment. A database of information is also planned.**

**The target audience will initially be agency personnel, with information more suitable for landholders**

**to follow, based on the Greenbook and database. The study is coordinated by Barbara Musso, and led by Mick Quirk (DPI) and Christian Roth (CSIRO Land & Water).**

**• Queensland's Department of Primary Industries has also released a draft Burdekin Rangelands Strategy for public comment. You can pick copies up at DPI offices in Charters Towers and Townsville.**

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## Northern Grassy Landscapes Conference

**W**hat are the prospects for the north's grassy landscapes? What are the best ways to manage for production and conservation in those landscapes? The TS-CRC is holding a major conference to explore these sort of questions.



A broad range of people are expected to attend and include land-owners, managers, community group members, extension officers, farm consultants, local and state government representatives and researchers. And of

To be held in Katherine in the Northern Territory, close to pastoral areas and grasslands, the Northern Grassy Landscapes Conference will bring together a diverse range of stakeholders, including producers and conservationists.

The conference will explore:

- Managing for conservation and production at local and landscape levels
- Best practice management of grassy landscapes for pastoral, Aboriginal, mining, defence, tourism and conservation managers
- Integrated regional planning, extension and community action
- Management tools for tackling fire, weeds and feral animals
- Future prospects for the northern grasslands

course, people with an interest in sustainable land use and conservation.

We're also looking for potential posters and displays, particularly from those with hands-on experience with the program topics. The conference is being held from August 29–31 and includes a field trip on the final day. If you'd like to know more, just take a look at the conference insert in this issue of *Savanna Links*. Or see contact details below.

#### General information:

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## Project frames up to rangeland biodiversity



**F**rom waterholes in arid mountain gorges to saltbush plains, tropical billabongs to mallee scrub, the Australian outback supports a remarkable variety of ecosystems, plants and animals.

While much has been lost, some areas are known to be recovering. The question now is whether we are indeed witnessing a recovery, or has an irreversible process of decline been put in place?

To provide more concrete evidence about the extent and direction of change and most importantly, management directions, the National Land and Water Resources Audit, established from the Natural Heritage Trust, has commissioned a project called 'Developing an adaptive framework for monitoring biodiversity in the rangeland'. This project is part of a program under the Audit to

establish Australia-wide rangeland monitoring and reporting. The 'Monitoring and Reporting framework for Australia's Rangelands', when implemented will cover biophysical, production, biodiversity, social, economic, institutional and cultural issues and be publicly available via the web, complete with summaries for each of Australia's IBRA regions.

The biodiversity project is being undertaken by a team based at the Tropical Savannas CRC. However, this is a rangeland-wide project, embracing about 75 per cent of the continent.

The project will review :

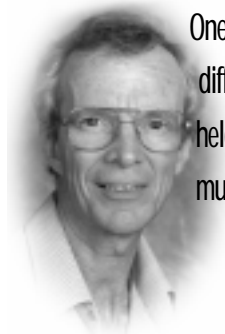
- trends and threats to biodiversity in the rangelands
- existing rangelands monitoring programs
- biodiversity monitoring programs overseas

- the theory and statistics of monitoring programs

A framework will then be structured to help produce tangible measures of long-term trends for a range of biodiversity. This could involve making better use of existing datasets, adding additional monitoring components or even starting afresh. The team will also draw on a panel of experts assembled from around the nation and become a key part of the Australia wide Rangelands Monitoring and Reporting initiative.

For more information on the Audit program  
Contact: Rochelle Lawson  
Email: [rochelle.lawson@nlwra.gov.au](mailto:rochelle.lawson@nlwra.gov.au)  
Website: [www.nlwra.gov.au/](http://www.nlwra.gov.au/)

For more information about the project, contact:  
Peter Whitehead, Key Centre for Tropical Wildlife Management, Northern Territory University  
Tel: (08) 8946 6703 Fax: (08) 8946 7088  
Email: [peterw@gjs.ntu.edu.au](mailto:peterw@gjs.ntu.edu.au)



One of the key roles of the Tropical Savannas CRC is to provide a neutral meeting place where different savanna land users can talk over issues of mutual importance. In January the Centre held a workshop to discuss one of these issues: land administration policy across the north. Is multiple land use a good idea? What are the issues involved in a new system of land leases?

Here we give you excerpts from just some of the talks given.

The TS-CRC is producing a full report on the workshop — *John Childs, Director TS-CRC*

## Land management & administration in the savannas

### Land tenure and administration in northern Australia: needed future directions

By John Holmes, Emeritus Professor of Geography, University of Queensland

According to John Holmes, major institutional reform is urgently required, focusing on the more marginal lands of the northern tropical savannas, where pastoral values are modest and Aboriginal traditional use, tourism and conservation are increasingly important.

To ensure equitable, sustainable long-term use of the tropical savannas, there is a clear need for the following:

1. Designing a mix of land tenures to accommodate the emerging mix of resource users, including a new tenure (or tenures) to enable multiple use by multiple users.

2. Reform of pastoral lease tenures to enable lessees to diversify while also facilitating land conversion to other modes of ownership and use, where appropriate.

3. New mechanisms to ensure regional coordination in an ongoing restructuring of the new mix of tenures linked to strategic regional planning.

4. A more coordinated input by the various public agencies engaged in sustainable land management, with land administrators fulfilling this coordinating role.

#### New mix and reform of tenures

For the tropical savannas, there is a clear need to review the mix of land tenures to ensure that all major uses are catered for in an efficient, equit-

able and sustainable manner. The following broad-scale modes of land use need to be accommodated on tenures awarding exclusive (or near-exclusive) occupation:

- Aboriginal homeland areas, held on non-transferable freehold
- Managed pastoral lands, held as term leases
- Conservation lands, usually held under public titles as National Parks
- Intensive and/or diversified land uses, generally held as term leases or perpetual leases, usually over relatively small areas.

While it is appropriate to specify the primary purpose of lands held for Aboriginal, conservation or pastoral uses, protocols may be put in place to ensure parallel uses, such as a continuing role for Aboriginal traditional uses on pastoral lands and National Parks. Already much has been done towards implementing parallel indigenous management and use in National Parks.

There is also a clear need for a new form of public tenure, to provide for the growing demands of footloose enterprises requiring specified rights of access and use but not needing rights of exclusive possession.

These multiple-use lands need to be strategically located to satisfy diverse demands of tourism ventures as well as individual users, while also being available for low-intensity pastoralism and Aboriginal uses, where appropriate. Licences and permits could be issued for any form



*Multiple-use lands need to be strategically located to satisfy the diverse demands of tourism ventures as well as individual users*

of commercial use, with clear specification of rights and duties. Some licensed users may have day-to-day custodial responsibilities. Such public lands would be an additional responsibility for administrators, preferably assisted by an advisory committee, comprising licensed commercial users as well as public and indigenous representatives.

#### Regional coordination

Tenure reform will not achieve the stated goals unless accompanied by a coordinated restructuring of the tenures at the regional level. The goal is to maintain an equitable land allocation, containing the mix of tenures already described. High priority needs to be given to resource-rich locales, with a focus on comp-

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lementary uses and on preserving biodiversity.

This will involve intensive consultations with all major interest groups, to achieve optimal outcomes, comparable to, but more far-reaching than the Cape York Peninsula Heads of Agreement.

### New coordinators needed

Unfortunately, in the tropical savannas, as in other remote, sparsely occupied marginal regions, there is always a formidable gap between project planning and implementation, as there is between initiation and maintenance. The logistic problems and costs are so high and the available resources so limited, that "management" is a pious hope rather than a realistic goal.

The problem is worsened by the continuing division of responsibilities between many agencies, each facing severe logistic obstacles in undertaking on-the-ground programs for a limited array of tasks. In order to minimise those burdens, while also maximising the scope for coordinated public

inputs, there is a strong case for deploying experienced personnel with multi-functional responsibilities within these marginal regions, in a manner traditionally undertaken by the police in very remote locations.

The prime role of these personnel would be as land managers, with responsibilities for the management oversight of various tenures, including pastoral leases, conservation covenants or easements within leases, multiple use public lands, national parks and any other public lands. This would involve ongoing liaison with the

### Conserving resource-rich patches in the landscape

In proposing a new approach to the problems of integrating conservation and production goals for arid Australia, Morton *et al.* (1995) differentiate between areas of mainly fertile soils where pastoral impacts are evenly distributed, and mainly infertile soils where pastoral impacts are focused on 'resource-rich patches'. These patches are of critical importance in maintaining biodiversity. To reconcile conservation and production goals, the authors propose a "whole-of-landscape" approach, requiring a hierarchy of tenures, with excised management units, restricted use units and sustainable use areas. They also suggest that titleholders receive financial assistance to meet any costs in managing off-reserve conservation values.

Compare the Barkly Tableland and the Gulf District. Over the Mitchell grasslands of the Barkly Tableland, pastoralism is likely to remain the dominant broadscale land use. Resource-rich patches may be identified in some locales, but they are rarely of critical importance either for production or for conservation goals.

In the adjoining Gulf region, resource values are highly focused in circumscribed locales, notably estuarine, riverine, riparian and other wetland zones and lands immediately adjacent. These areas are of prime interest not only to pastoral and conservation interests, but also to Aborigines and to a new wave of users, including tourism and recreation: fishing, boating, other water-based recreation, camping, walking, wildlife observation and so on.

Effective, sustainable management of the savannas must increasingly be directed at minimising over-use and conflict at these resource-rich areas.


relevant central agencies, and also regular oversight of persons holding leases, licenses and permits, as well as those undertaking custodial tasks on a salary or contract. With multiple responsibilities these staff would be better able to maintain regular, more frequent contact with private land users and achieve day-to-day coordination.

These articles are edited versions of the originals. To read the full versions, go to our website, click on Publications then Savanna Links, Issue 13. Go to:

[http://savanna.ntu.edu.au/publications/savanna\\_links.html](http://savanna.ntu.edu.au/publications/savanna_links.html)

## Sustainable management of a pastoral enterprise in north Queensland

Roger G. Landsberg, pastoralist, Trafalgar Station, Qld



Roger Landsberg sees the need for change, but considers diversification may not be available for all rural enterprises. Instead he asks: what resources and policy support do you need to run a pastoral operation in north Queensland so it is economically and ecologically sustainable.

Essentially, the main requirements for a sustainable pastoral enterprise in north Queensland can be grouped under three headings: government policy, geographic location and managerial capability.

### Government policy

Currently, there does not seem to be a policy for agriculture consistent

with promoting sustainability. The question has to be asked: do the people of Australia have a policy on what is required of rural Australia? If agriculture is to remain, then property viability has to be addressed.

#### 1. Land tenure

The tenure issue is wider than native title and co-existence. From a producer's point of view, the main requirements are long-term security, not necessarily freehold, with as little interference as possible. This issue also encompasses matters like property size, build up and values, National Park acquisition, and land use. The changing tenure and use of land can lead to massive demographic changes in areas, which will have a flow-on effect on rural communities. Property sizes need to be larger to be

viable. How do we do this? Does government resume leases and re-allocate or do we let the market do it for us? If we are going to let the market determine viability then we need to borrow against our land, for which we will need long-term security.

#### 2. Interest rates and subsidies

I don't have a lot of faith in government schemes so I prefer the market option. Government would have to abolish the so-called drought subsidies to allow the free market to operate properly. Land is generally overpriced because of acquisition of land above market value. Subsidised interest rates also tend to distort the market. Unrealistic market prices and subdivision also force rents and rates higher, creating more cost imposts.

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# Land management & administration in the savannas

## Sustainable management of pastoral enterprise in north Queensland

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### 3. Vegetation and water management

The current permit system for tree clearing and water drilling in Queensland is under review and new regulations may be put in place based on regional ecosystems. The consultation process has been extremely emotive and negative and producers are finding it difficult to accept restrictions on practices that were requirements of a lease. I believe clearing has a role in enhancing carrying capacity of land, where there is minimum risk of degradation. At property scale, pasture development on smaller blocks of land allows stocking at a lower rate on native areas. I also believe as people become better educated to the processes involved with soil and vegetation, including the role of fire, stock management and the costs associated with timber management, clearing will become less of an issue in the future in the northern grazing lands.

### Geographical location

The geographical location of a property has a huge impact on whether a property is sustainable or not. This can be offset by managerial ability to a degree, but areas like Cape York, unless huge regional development takes place, are not going to sustain grazing properties. The soils are largely poor, which necessitates large supplement inputs. Market access is limited. There are other areas in north Queensland where the soils are marginal, there is less rain and distances from services are high, but they can usually be overcome by managerial skill and a better road network.

### Managerial ability

The ability to plan and implement a management program is by far the greatest requirement for a sustainable enterprise. The manager has to holistically integrate five systems: personal goals, economic, stock and land management and information.

#### 1. Personal goals

Most properties are family owned and operated so the goals of the family have to be clearly delineated in the property management plan. If the aspirations of the manager and/or the family are beyond that which the property can provide, then action should be taken whether to sell and upgrade or seek another career.

#### 2. Land management

The capability of the land has to be determined with regard to the personal goals of the landowners. Carrying capacity should be calculated at a conservative level to allow for

dry years and any development options should be considered only after proper investigation of possible ecological ramifications and budget capability.

#### 3. Stock management

Stock type and numbers should be determined allowing for marketability, land type and rainfall variability. The stock has to be managed for the market that is going to be the most profitable. For example, there is no point in trying to raise steers suitable for the Japanese market on a property near Normanton as the soils are too poor for adequate growth and the nearest export abattoir is Townsville, 900 km away. It would be more appropriate to sell young or "store" steers to the live export market as they can be sold at around 15 months of age and sent to Karumba, 80 kilometres away. The point is that the manager has more market options with a younger animal but has to be able to manage the increase in risk due to the higher breeder numbers required.

#### 4. Economic management

Careful management of budgets and cash flows in keeping with the overall property plan are more essential today with declining margins associated with the global economy, rising costs and a more discerning consumer. With the introduction of the GST, there are going to be major cash flow implications every quarter, so careful planning and accounting processes are going to be necessary. Electronic record keeping will be the most efficient means of keeping track and will require a huge up-skilling of most rural managers. The producer of today and in the future will have to forsake more time in the saddle for the office chair if he wants to remain viable. Because of the training involved in attaining these skills and the conditions required to attract people to the bush, labour costs are higher.

#### 5. Information and technology

We are bombarded today with a vast amount of information in various forms. The successful producer will be the one who has the ability to glean what is going to be useful to his operation. An operation does not have to be hi-tech to be successful. In fact, the opposite can apply. Paying strict attention to the basics of genetics, nutrition, marketing and expenditure and ignoring fancy add-ons can lead to increased profitability. We, as producers, have to improve our identification of research needs and our communication channels with researchers.

Most of the above issues require a cultural change and a paradigm shift away from what has been the mindset in rural Australia for decades.

This massive change in lifestyle and the way we do

'The . . . issues require a cultural change . . . away from what has been the mindset in rural Australia for decades'



## Tourism and a 21st century land-use dilemma

Rick Murray, president of Tourism Council of Australia NT

In Rick Murray's view a major issue is that the tourism industry has to do much of its business on land owned and managed by someone else.

The tourism industry has very little land of its own to manage. Most of the land we use is National Parks or reserves, pastoral or Aboriginal freehold and as such, owned or managed by someone else. This is why I prefer to focus on land administration for this discussion.

In most regions of northern Australia in the late 20th century, mining became the number one earner. But tourism now generates hundreds of millions of dollars each year, and has moved into second place well ahead of pastoral leases, pearling, fishing and agriculture. Northern Australia has become dependent on tourism.

Tourism is an industry that everyone notices because they see the visitors around them but few people understand its true breadth and diversity. The backbone of the tourism industry in northern Australia is based on our extraordinary natural and cultural heritage. Some call it ecotourism but that is probably too narrow a term to describe the broad diversity of activity taking place.

The full spectrum of nature-based tourism can include multi-million dollar eco-resorts and a range of tour operators moving visitors from place to place providing them with high-quality interpretation of natural and cultural values as they go. Tourism includes some of the very largest corporations, a vast number of small to medium-sized enterprises and many micro businesses as well.

Opportunities in tourism involve much more than offering home-stay accommodation and selling goods.

Professional tour operators offer genuine, positive benefits to the region.

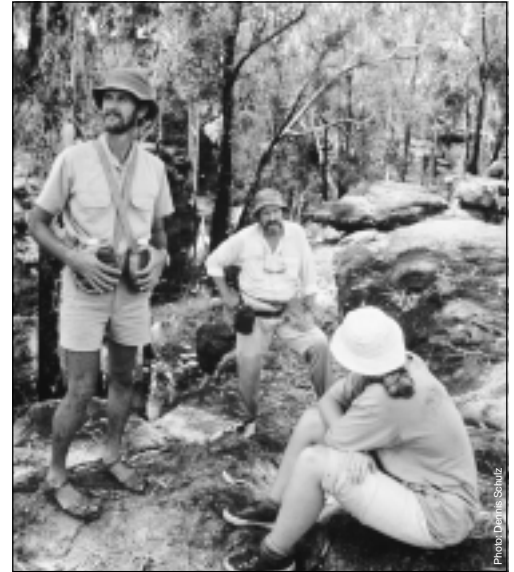
### Investment

Most of our visitors come to see and experience the spectacular natural places, biodiversity, wide-open spaces and the natural wonders they contain. Their focus is in the bush, not the towns. Yet most significant tourism investments are made in our cities and towns. Why? Because that is where investors can have some real security over land they need into the future. That is where they can have some control over managing the land their businesses depend upon.

Some pastoralists have invested in tourism but not heavily—why would they when their security for such investment is so uncertain? The same goes for other businesses that may establish a tour operation or a safari camp. This might be done on a short-term licence in a National Park or other protected area. Some may even be established by virtue of a nod and a handshake from the pastoral leaseholder or even on the basis of simply wishful thinking on vacant Crown land. No bank in the country would lend with this lack of security. And if a business cannot raise investment funds it cannot grow, it cannot realise its full potential.

### The dilemma

Herein lies the dilemma: how to facilitate future growth and investment in our economy in a fair and equitable way that takes into account the past and current land use while at the same time considering the attachments that some people have to the land—whether they formed their attach-



*More than outback tours: everyone notices tourism, but few understand the breadth of its diversity*

ments over decades or over millennia. To solve it we will all need to work together and think not just of our own good but of the good of the whole north Australian community, both now and well into the future.

### Multiple land use

The lands of the north are diverse indeed: forests and wetlands, broad rivers and narrow gorges, escarpment and endless grassy plains. The potential for multiple use of these lands is every bit as broad. Some of the land is good cattle country, some of it is mineral rich and some of it is attractive for tourism activity. Often though the places that are good for one type of business activity are not very good for another. The Bungle Bungles, for example, were once described as rubbish country: unwanted and not used by people working on pastoral leases. It is now the mainstay of tourism in the South East Kimberley.

The various National Park services across the north have taken over many places like the Bungle Bungles and they allow, indeed facilitate tourism, albeit on a relative insecure

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business could take generations to happen. With the consumer generally becoming more dissociated from the bush and the hardships of the rural dweller, those of us who want to protect our way of life must become better at protecting the dirt beneath our feet.

We complain of regulation and gutless govern-

ments, but perhaps it is in our interest if we made our own hard decisions instead of leaving it to someone else.

The world has changed, is changing and will continue to do so at an alarming rate. We will have to change with it.

## Letter to the Editor

Regarding savanna health (*Savanna Links* Issue 12) is it not time that we as a region/nation officially recognise and acknowledge that “political science” (politically correct science) is one of the most obvious constraints in our productivity as a region/nation? “Functional science” (where cause and result can be correlated = what actually works) indicates:

► Most Australian environments have not been intact since the extinction of the mega-fauna many thousands of years ago. (There is increasing indication that the demise of some 94 per cent of Australia’s mega-fauna, mostly herbivores, is related to the arrival of the first humans on this continent.)

► We inherited a continent fashioned by human management: a product of fire-climax management through millennia, that shaped an environment that could, by all accounts, barely sustain half a million humans; an environment that was and still is biologically unhealthy. (Fire did absolutely nothing to conserve biomass. Biomass is a vital facet of biodiversity. Biodiversity underpins any functioning economy. This is not saying that there is no role for fire.)

► Fire cannot and will not replace the role that our lost herbivores played in maintaining and building biologically healthy landscapes. (If

environmental health is a desirable situation we only have existing herbivores to fulfill the functions that nature prescribes. Currently only hands-on land managers are in a position to influence the movement of these animals in a way where the result mimics what nature achieved in the first place.)

► There are cost-effective options to manage terrestrial environments in such a manner that biodiversity is built and not lost. (One may only hope the same for aquatic environments)

It is interesting to observe how the challenges of the land manager change over time. These changes can be directly related to the size of human populations.

*Step 1* Nomadic communities: From a range of environments, harvest enough to sustain one’s “clan”.

*Step 2* Agriculture-based communities: Manage the immediate environment to sustain human activity.

*Step 3* As trade became more sophisticated: With “improving” technology manage the immediate environment and other environments to sustain human and animal communities that had begun to divorce themselves from natural biological and ecological processes and realities. They also had to extract a surplus to sustain their family. This invariably led to . . .

*Step 4* Big city energy and nutrient sinks all over the planet at the expense of the wealth of the areas where extraction occurs. Only now, at ever increasing costs (biological,

social and financial), there is ever more powerful technology available, more regulation, a self-perpetuating pile of paperwork and the task of managing for environmental health while land managers are being told that they are the ones responsible for the destruction occurring around us.

Just as the work of the man on the land enabled humans to take Step 1 to Step 2, and later Step 2 to Step 3, I feel the onus will be on the hands-on land managers to come up with practical solutions to educate city people and somehow bring them and most of our leaders back to planet earth in a way that is ecologically acceptable.

In conclusion I wish to take side with voices that have been trying to tell us that in relation to the productivity of our rural areas “sustainability” is a non-goal. It is NON-SENSE to even contemplate to sustain a vastly degraded production base. I share the opinion of people like Dr. Christine Jones, that we desperately need to rebuild, regenerate or perhaps even build biological foundations that have not yet existed on this continent.

The only people currently in a position to implement these needs are active land managers. (That includes fishers, foresters etc. but it does not exclude members from any sector of the public who wish to have a go at it.) They will need maximum community support. Firstly and foremost, they need to be given an incentive.

Chris Henggeler, Kachana Station, Kimberley WA

## Land management and administration in the savannas

Continued from page 7

basis. Insecure simply because it is usually based around short-term licences. This may work reasonably for major attractions such as the Bungles but what of the countless smaller, less significant places that nevertheless hold huge attraction for tourism? We cannot have all these places brought into the National Parks’ estate and nor should we. The land that it is needed for tourism will not be extensive in area but in small, special places across the north. It would rarely be on good cattle country and need not interfere with that industry.

We need to consider some kind of system that can facilitate tourism into becoming a genuine part of the multiple land-use picture. Perhaps we need some system similar to that of the mining industry: allowing

specific activity at specific places for a guaranteed, substantial period of time.

Of course, such a system would need to take into account Aboriginal owners of the land and pastoral leaseholders just as the mining system does. By considering these sorts of scenarios we may well find that ways do exist for us to better administer our use of the land. Ways which don’t need to have a negative impact and can create long-term jobs and improved infrastructure for all of us to use and enjoy.

We cannot just hang on to the past simply because it is the way things have worked up to now. We need to take the good things from the old ways and the good things from the present and grasp the future with both hands. We need to do it well and we need to do it soon.





### Another link sealed for Savannah Way

**The Gulf Development Road, which will eventually be known as part of the Savannah Way, is now completely sealed for the entire 700 km length from Cairns to Karumba. The last 28 kilometres of road between Croyden and Normanton were sealed at the end of last year and opened by Queensland premier Peter Beattie in December (pictured). The concept of the Savannah Way—which will encompass the highways and roads that link the savanna regions of Queensland to those in the NT and WA—will promote savanna attractions across north Australia.**

### How wet? Check the Internet

A New website to view rainfall trends in Australia for most of the past century shows that the average number of rainy days has gone up by 10 per cent. The website has rainfall information from 1910 to 1995, averaged for each state and territory. “Most parts of the country have become wetter since 1910,” said Kevin Hennessy, who initiated the web project at CSIRO Atmospheric Research. “Many areas are experiencing more rainy days and more heavy rainfall than in the past.” Since 1910, annual total rainfall has risen by about 15 per cent in NSW, SA, Vic and the NT, with little change in the other states. South-west WA has become 25 per cent drier in winter. The NT and NSW experienced the greatest increase in rainy days, while Tasmania and south-west WA have had fewer rainy days than in the past. “During the 85-year period we studied, we found that the average number of rainy days in Australia has gone up by 10 per cent,” he said. Following a run of wet La Niña years from 1973 to 1975, there was a tendency for more El Niños than La Niñas up to 1995. El Niños are normally associated with relatively dry conditions in Australia.

Go to: [www.dar.csiro.au/res/cm/rainfall\\_trends.htm](http://www.dar.csiro.au/res/cm/rainfall_trends.htm)

On May 2 the Key Centre for Tropical Wildlife Management officially opens at the Northern Territory University. Peter Whitehead, one of the TS-CRC's contributing researchers and research theme leaders will head the new centre.

### Consensus on native vegetation

A NATIONAL consensus on how to manage and protect Australia's remaining native vegetation was unveiled at the International Land-care 2000 Conference in Melbourne at the beginning of March. The *National Framework for the Monitoring and Evaluation of Australia's Native Vegetation* commits every State and Territory to ensuring they take steps to halt the loss of native vegetation. All Australian governments have committed themselves, to reversing the long-term decline in the quality and extent of Australia's native vegetation cover by June 2001. The Framework details a range of 'best practice' measures, including:

- regional vegetation management planning
- revegetation strategies
- land clearing regulation
- threatened species legislation
- land use codes of practices
- land management incentives
- the role of local government
- mapping and monitoring

As much as 70 per cent of Australia's

native vegetation has been cleared or disturbed in the past 200 years, most in the past 50 years.

### Nineties prove hot to handle

THE 1990s have been confirmed as Australia's hottest decade for which high-quality records are available. Director of Bureau of Meteorology, Dr John Zillman, announced that the 1990s were 0.11°C warmer than the 1980s, the previous warmest decade. The end of the El Niño effect made 1999 cooler than the record-breaking 1998, but it was still above the average for the past 40 years. Globally it was even hotter, with data indicating 1999 was the fifth hottest year on record.

*Australasian Science*, March 2000

### Cane toad heart elixer

AUSTRALIAN researchers have identified unique pharmaceutical properties in the cane toad similar to drugs used to treat heart disease and matching those used in traditional Chinese medicine. China already imports toads, and the Australian find could lead to one of our biggest environmental pests becoming an agricultural

commodity. The results are in a new report from Australia's Rural Industries Research and Development Corporation which supported research at the University of Newcastle led by Prof. Alan Boura. Toad skin contains many natural agents that act as toxins to predators. The main thrust of the research was on cardio-vascular effects of toad skin and venom, in line with its use in traditional medicine. Although Chinese medicines have used toad skins for thousands of years, it was the first time extensive investigations had been performed.

Tim Evans, RIRDC, Tel: (02) 6272 4735  
Web: [www.rirdc.gov.au/home.html](http://www.rirdc.gov.au/home.html)

### Keep River park extension

AN additional 3000 square kilometres is to be added to the Northern Territory's national parks' estate with the extension of the Keep River National Park in the Victoria River region. The expansion will encompass part of Spirit Hills Station as well as an area to the west of Keep River on Legune Station, increasing the size of the park by 400 per cent.

**General**

**National Science Week  
3–10 May, 2000, Australia-wide**

**Contact:** Ms Willow McGregor  
National Coordinator,  
Level 5, Health Building,  
Corner of Moore and Alinga Streets  
Canberra ACT 2601  
**Tel:** (02) 6205 0281  
**Email:** scienceweek@orac.net.au

**Cooperative Research Centre  
Association Conference  
17–19 May 2000, Brisbane**

The Cooperative Research Centre Association Conference has three objectives:

- Promotion of the CRC Program through CRC achievements
- Involvement of key stakeholders/decision-makers
- Self-help for CRCs.

**Contact:** Dr Michael Hood  
Organising Committee  
CRCA Conference Planning  
Committee Chairman  
CRC Mining Technology & Transfer  
**Tel:** (07) 3212 4520 **Fax:** (07) 3212 4683  
**Email:** l.mete@cat.csiro.au

**Country Towns Futures  
Conference—First National  
Conference on Australia's  
Country Towns, 'Practical  
Strategies for Sustainable  
Futures'**

**28–30 June 2000, Bendigo**  
**Venue:** La Trobe University, Bendigo,  
Victoria  
Country towns are an essential part

of the fabric of rural Australia, and are home to about one in six Australians. The organisers say country towns and their people have been marginalised, stereotyped as in decline and ignored by policy makers. This gathering will provide an opportunity to develop recommendations for rural policy.

**Fax:** (03) 5441 6694  
**Postal:** RPD Group, Box 2750,  
Bendigo MC 3554  
**Website:**  
www.bendigo.latrobe.edu.au/  
campserv/csrc

**Desert Uplands Festival  
3–19 May, 2002, Queensland**

The Desert Uplands Festival is an ambitious project which aims to celebrate and affirm the culture and lifestyle of the region. The festival includes Alpha, Jericho, Barcardine and Aramac. If you would like to contribute to the planning process contact the DU Committee.

**Contact:** The Desert Uplands Office  
**Tel:** 1800 007 807 **Fax:** (07) 4651 11001  
**Email:**  
DESERT.UPLANDS@bigpond.com  
**Website:** www.sunzine.net/outback/  
desertuplands

**Ecology & Environment**

**Enviro 2000  
9–13 April 2000, Sydney**

- Australian Greenhouse Conference
- Water Tech
- Fifth Australian Waste Convention
- Odour Conference

• WaterTECH Conference  
**Venue:** Sydney Convention and  
Exhibition Centre

Integrated environment event for business, industry and science, covering four conferences with 10 technical streams.

**Tel:** (02) 9410 1302  
**Email:** itsquitz@dot.net.au  
**Website:**  
www.enviro2000.awwa.asn.au

**ISEE 2000 People and Nature:  
Operationalising Ecological  
Economics  
5–8 July 2000, Canberra**

**Venue:** Australian National Uni-  
versity, Canberra.

ISEE 2000 will focus on operational applications of ecological economics. The conference is organised by the International Society for Ecological Economics and the Australia New Zealand Society for Ecological Economics.

**Contact:** Beth Stoodley  
**Tel:** (02) 6249 3806 **Fax:** (02) 6279 8066  
**Email:** beth.stoodley@anu.edu.au

**Postal Address:**  
Centre for Continuing Education  
Australian National University Can-  
berra ACT 0200  
**Website:** www.anu.edu.au/cce/isee/

**International Symposium of  
Advances in Carbon and  
Nutrient Cycling and Catchment  
Processes in Managed Forests  
21–25 August 2000, Gold Coast**

**Contact:** Tim Blumfield  
**Tel:** (07) 3875 7494

**Fire Management**

**Native Solutions: Indigenous Knowledge and  
Today's Fire Management  
6–8 July 2000, Hobart**

**Venue:** Hobart, Tasmania  
Tasmania's Parks and Wildlife Service and the Tasmanian Aboriginal Land Council invite managers, researchers and indigenous communities to participate in a forum to consider the role of indigenous knowledge, technologies and people in contemporary fire management.

**Contact:** Greg Lehman, Project Manager, Aboriginal Partnerships World Heritage Area  
**Tel:** (03) 6233 2109 **Fax:** (03) 6233 3477  
**Postal:** Policy & Planning Section, Parks & Wildlife Service  
Department of Primary Industries, Water & Environment  
GPO Box 44A Hobart Tasmania 7001 Australia

**Email:** glehman@dpiwe.tas.gov.au  
**Website:** www.parks.tas.gov.au/manage/conferences/  
conf.html

**Tourism**

**Savannah Guides School  
6–9 April, 2000, Mareeba, Queensland**

**Venue:** Mareeba Wetlands Centre, Mareeba  
The School is held twice a year for Savannah Guides, an incorporated company of independent tour guide operators across northern Australia. The Schools are generally by invitation only, but special arrangements may be considered.

**Contact:** Savannah Guides **Postal:** PO Box 254 Cairns,  
Qld 4870 **Tel:** (07) 4055 6504 **Fax:** (07) 4057 7226  
**Email:** info@savannah-guides.com.au  
**Website:** www.savannah-guides.com.au

**Remade Lands 2000, Second International Conference on Remediation and Management of Degraded Lands**  
**30 Nov–1 Dec 2000, WA**

**Venue:** Murdoch University, Western Australia

**Contact:** Dr Kuruvilla Mathew  
 Environmental Science  
 Murdoch University

**Tel:** (08) 9360 2896 **Fax:** (08) 9310 4997  
**Email:** mathew@essun1.murdoch.edu.au

**Pastoral Interests**

**Beef Expo 2000**  
**9–16 April 2000, Central Qld**

**Venue:** Rockhampton

The event will highlight contributions made by the national beef industry. It will focus on opportunities to allow the beef industry to build a dynamic, secure future into the next millennium. It is organised by the Australian Beef Cattle Exposition Association Inc.

**Website:**

[www.leaky.rock.tap.csiro.au/Beef2000/beef2000-structure.html](http://www.leaky.rock.tap.csiro.au/Beef2000/beef2000-structure.html)

**Tropical Grassland Society Conference—Pastures for Production and Protection**  
**26–28 April 2000, Emerald**

**Venue:** Emerald Agricultural College  
 The conference focuses on protecting soil, building fertility, controlling weeds. It also features field trips. Sessions include mine revegetation systems, pasture and cropping systems, native pastures and weed eradication.

**Contact:** Maurice Conway TGS  
**Tel:** (07) 4982 8814 **Fax:** (07) 4982 3459

**Email:** conwaym@dpi.qld.gov.au  
[www.powerup.com.au/~tgsoast](http://www.powerup.com.au/~tgsoast)

**To submit posters contact:**  
 Karen Healey, University of Queensland, Gatton College  
**Tel:** (07) 5460 1307 **Fax:** (07) 5460 1112  
**Email:** k.healey@mailbox.uq.edu.au

**10th Australian Agronomy Conference Science and Technology: Delivering Results for Agriculture?**  
**28 Jan–1 Feb, 2001, Tasmania**

**Venue:** WrestPoint Casino Convention Centre, Hobart

**Contact:** Conference Design Pty Ltd  
**Tel:** (03) 6224 3773 **Fax:** (03) 6224 3774  
**Email:** mail@design.com.au

**Water Management**

**Hydro 2000 3rd International Hydrology and Water Resources Symposium**  
**20–23 November 2000, Perth**

**Venue:** Sheraton Hotel, Perth  
 The symposium will commence with optional workshops on Monday 20 November 2000. The main symposium runs from 21–23 November. There is an optional two-day tour on 24–25 November. Sub-themes include interactions between hydrology and the environment, society, climate, groundwater and surface water; infrastructure and industry; the built environment and interactive hydrology.

**Contact:** Congress West Pty Ltd  
**Postal Address:** PO Box 1248  
 West Perth WA 6872  
**Tel:** (08) 9322 6906 **Fax:** (08) 9322 1734  
**Email:** conwes@congresswest.com.au  
**Website:** [www.ieaust.org.au/hydro2000/](http://www.ieaust.org.au/hydro2000/)

**Northern Grassy Landscapes Conference**  
**29–31 August, 2000, Katherine, NT**

**Theme:** Striking a balance between production and conservation in the grassy landscapes of north Australia

**Venue:** Katherine, NT

The conference will explore issues including managing for conservation and production at local and landscape levels; and best practice management of grassy landscapes for pastoral, Aboriginal, mining, defence, tourism and conservation managers.

**Contact:** Peter Jacklyn  
**Postal:** Northern Grassy Landscapes Conference, Tropical Savannas CRC, Darwin NT 0909 **Fax:** (08) 8946 7107  
**Email:** savanna@ntu.edu.au

**\*See insert this issue!**

**Fauna**

**International Workshop on Wildlife Population Assessment**  
**3–7 July 2000, Brisbane**

**Venue:** University of Queensland: Centre for Conservation Biology. Presented by Prof. Ken Burnham and Prof. David Anderson, Dept of Fishery & Wildlife Biology Colorado State University.

This workshop targets field biologists, academics and postgraduates with a working knowledge of sampling wildlife populations and analysis of resultant data. Software and other material will be provided at the workshop. Participants are encouraged to bring their own datasets. Registration will be limited and securement of a place can only be guaranteed upon full payment, by 31 March 2000.

**Contact:** Anita Petrie  
 Centre for Conservation Biology  
 The University of Queensland  
 Brisbane Qld 4072  
**Tel:** (07) 3365 2527  
**Fax:** (07) 3365 4828  
**Email:** ccbinfo@ccb.uq.edu.au  
**Website:** [www.ccb.uq.edu.au/](http://www.ccb.uq.edu.au/)

**Southern Hemisphere Ornithological Congress**  
**27 June–2 July 2000, Brisbane**

**Venue:** Griffith University, Brisbane  
 Birds Australia is presenting the 2nd Southern Hemisphere Ornithological Congress (SHOC) which aims to bring together southern hemisphere ornithologists to discuss research and conservation of birds. Plenary speakers and symposium organisers are confirmed from Australia, southern Africa, and South America. The congress will be hosted by the Queensland Ornithological Society.

**Contact:** Congress Secretariat Conventions Queensland  
**Postal:** PO Box 4044  
 St Lucia South Qld  
**Tel:** (07) 3870 8831  
**Fax:** (07) 3870 9514  
**Email:** shoc2000@conqld.org.au  
**Website:** [www.birdsaustralia.com.au/shoc](http://www.birdsaustralia.com.au/shoc)



**Seminars**

**Davies Lab Seminar Series 2000  
CSIRO Davies Lab Seminars,  
Townsville**

Venue and dates: Fridays, 11am  
CSIRO Davies Lab, main seminar room.  
**31 March:** *Environmental management of military lands*, Andrew Ash, CSIRO TAG  
**14 April:** *Erosion risk assessments in TFTA Dotswood*, Christian Roth, CSIRO L&W  
**Contact:** Romy Greiner  
**Tel:** (07) 4728 6436  
**Email:** Romy.Greiner@tag.csiro.au

**Tropical Ecosystem Research Centre (CSIRO) Seminars, Darwin**

**Venue and date:** 3.45 pm, CSIRO Conference Room McMillans Road, Darwin  
**Friday, April 7:**  
*Bridge over Daly Waters: A Regional Approach to Conservation Planning*  
Owen Price, PWCNT  
**Friday, April 28:**  
*Fire and Grazing: Sustainable Solutions for the Pastoral Industry*  
Rodd Dyer, NT DPIF, Katherine, & TS-CRC  
**Friday, May 19:**  
*Just Burn It!: Simulating the Effects of Fire Management on Top End Savannas*  
Garry Cook, CSIRO W&E, Darwin NT  
**Contact:** Barbara McKaige  
**Tel:**(08) 8944 8411 **Fax:** (08) 8944 8444  
**Email:** barbie.mckaige@terc.csiro.au  
**Website:** <http://charles.dar.dwe.csiro.au/>

**CINCRM Seminars**

**Tuesdays, 12.00 to 1.00pm**  
**March 21:**  
*Nyirranggulung: the Big Picture: Development on Jawoyn Land*  
Robert Lee, Jawoyn Association  
**March 28:**  
*Milthun Laatju Waanga Romgu Yolnguwu: Valuing Yolngu Knowledge in Education*  
Raymattja Marika, Yirrkala Community Education Centre

**April 4:** *Australia's Obligations Under the Convention on the Elimination of all Forms of Racial Discrimination and the Native Title Amendment Act, 1998*  
Michael O'Donnell, Barrister, John Toohey Chambers, Darwin  
**April 11:** *Black Madonnas and White Virgins: Black and White Representations in Catholic Iconography*  
Sue Stanton, Research Fellow, CINCRM  
**April 18:** *New Ways, Old Ways: Using Satellites to Look After Turtles*  
Nanikiya Mununggurr, Dhimmurru Land Management Aboriginal Corporation & Dr Rod Kennett, CINCRM  
**May 9:** *Ecological Impacts of Aboriginal Landscape Burning in Western Arnhem Land*, Dr David Bowman, CINCRM  
**May 16:** *The Spirit or the Image—A Journey: Television and Images in the Torres Strait*  
Richard Davis, NARU, ANU  
**May 23:** *Topic to be announced*  
Dr Jeremy Russell-Smith, NT Bushfires Council & TS-CRC  
**May 30:** *Trepang: Assessing an Intercultural Performance*  
Andrish St. Clare, CINCRM  
**Contact:** Kirsty Gellatly, CINCRM, NTU  
**Email:** [k\\_gellatly@banks.ntu.edu.au](mailto:k_gellatly@banks.ntu.edu.au)

**Queensland Herbarium seminars Brisbane**  
Held monthly  
**Venue:** FM Bailey Conference Room Queensland Herbarium  
Brisbane Botanic Gardens  
Mt Coot-tha, Mt Coot-tha Road  
Toowong, Brisbane, Qld 4066.  
**Contact:** Dr Rod Fensham  
**Tel:** (07) 3896 9547 **Fax:** (07) 3896 9624  
**Email:** [rod.fensham@env.qld.gov.au](mailto:rod.fensham@env.qld.gov.au)

Don't forget to visit our calendar section on the website: it's updated regularly. Go to <http://savanna.ntu.edu.au/news/calendar.html> or just go to our home page and click on the blue heeler.

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**OUR STAKEHOLDERS**



ABORIGINAL COMMUNITIES



PASTORALISM



TOURISM



MINING



CONSERVATION



DEFENCE