



# SAVANNA LINKS

Cooperative Research Centre for Tropical Savannas Management

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## Project to beef up sustainability



A project on Heytesbury Beef's Pigeon Hole Station, in the NT's Victoria River District, is looking at boosting profits from pastoralism without damaging the environment.

The results from the Pigeon Hole project will underpin future development in the northern beef industry. — See page 3.

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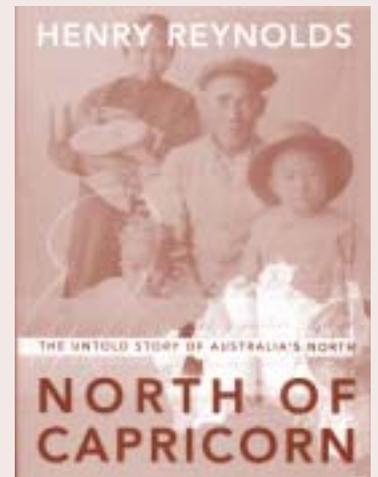
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#### CALENDAR 15–16



#### Northern website links remote fire managers

Pictured are Andrew Edwards, Dean Yibarbuk and Otto Campion in Arnhem Land, looking at maps printed out from the North Australian Fire Information website. The website has now been in use for some months, and this issue *Savanna Links* finds out how the site has been received. — See page 5.



IN this book, Professor Henry Reynolds reveals two Australias at odds in the last half of the 19th century—the predominantly white south, and that north of the Tropic of Capricorn: multi-racial towns and settlements and the great tribal areas of Cape York, Arnhem Land, the Kimberley and the Sandy Desert. — See page 13.

David Bowman contrasts conservation practices in Africa and Australia; Royce Sample casts a critical eye at implementation of NHT in the NT; Queensland's remnant vegetation laws tabled; funding success for projects across the north, and much more.



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# Landmark agreements for native title

AT an historic gathering on March 14 at the old gold mining town of Kidston—about 500 kilometres south-west of Cairns—pastoralists from Ballynure, Percyvale, Eight Mile, Ados and Gum Flat, joined with representatives of the Ewamian People to sign five separate memoranda of understanding (MoU). In the first event of its kind in Australia, the five north Queensland pastoralists signed agreements with the native title claimants that settle access issues and allow certain traditional activities to be undertaken once again on the pastoral stations.

The MoUs acknowledge the Ewamian People as the traditional owners of the area and settle issues surrounding traditional use and access of the five pastoral properties. Among the key issues for the Ewamian People was the protection of significant sites on the pastoral land and accessing country to pass on their culture to younger generations.

Negotiations for the MoUs began in 2002 with the National Native Title Tribunal holding public forums in towns within the Ewamian People's native title claim area. A document outlining the Ewamian People's aspirations for the land was sent to all pastoralists in the area, leading to a number volunteering to explore agreement-making options with the Ewamian people. The Tribunal then convened meetings on each property between these pastoralists and Ewamian representatives.

Several more pastoralists from the Kidston area are proposing to sign similar agreements over the coming months and discussions are under way to formalise the five MoUs signed today into legally binding indigenous land use agreements.

## Major native title decisions for Kimberley

ONE of Australia's longest-running native title claims has been resolved in Kununurra, after nearly a decade of court cases and negotiation, at a cost of \$10 million. In mid-December 2003, the Federal Court ratified an agreement in which the Miriuwung Gajerrong people would have exclusive rights to a significant part of the native title claim area along with shared rights to other parts.

The claim included the Ord River Irrigation Area, Lake Argyle, Lake Kununurra, the Glen Hill pastoral lease, part of the Argyle diamond mine and the Keep River and Mirima national parks. While all pastoral leaseholders' rights were

confirmed by the decision, any future development, such as the Ord Irrigation Stage 2, is subject to consultation with the Miriuwung Gajerrong people.

Meanwhile, in the west of the Kimberley, the largest native title claim to go before the courts—a claim about the size of Tasmania—was determined after two years of deliberation. The Wanjinna/Wungurr-Willinggin and Ngarinyin people sought recognition of their native title rights over two adjoining areas between Derby and Wyndham in the Kimberley region, covering 59,903 and 7229 square kilometres respectively.

The Federal Court found that native title had been partially extinguished over tidal waters, pastoral leases and mining tenements and fully extinguished in areas such as special leases and public works. However, in other areas the Wanjinna/Wungurr-Willinggin and Ngarinyin people have exclusive native title rights. Effectively, the Federal Court has clarified where native title exists on the pastoral lease under the claims. The claimant groups and the pastoralists will have the opportunity to develop and build relationships as they consider how their rights will co-exist. The decision is a draft determination and the Federal Court is seeking submissions from the applicants and the respondents.

## Fishing rights

ON March 23, the Federal Court also recognised that native title exists over areas of sea surrounding the Wellesley Islands group in Queensland's Gulf of Carpentaria, around 400 km north of Mount Isa. The court found that the Lardil, Yangkaal, Kaiadilt and Gangalidda peoples held non-exclusive rights in line with their traditional law and customs over areas of sea and part of the Albert River on the mainland. However, it was determined that native title existed over only a portion of the original claim area.

Rights recognised include fishing, hunting and gathering (including of turtle and dugong) in the intertidal zone and surrounding waters for personal, domestic or non-commercial communal consumption. Fresh drinking water can also be taken from springs in the intertidal zone, and the land and waters seaward of the high water line can be accessed for religious or spiritual purposes.

Web: National Native Title Tribunal <[www.nntt.gov.au/](http://www.nntt.gov.au/)>

## Tropical Savannas CRC: Linking the North

The Tropical Savannas CRC is a joint venture of the major organisations involved in land management of the savannas of northern Australia.

It comprises three universities, government agencies from the NT, Qld and WA and the Commonwealth, CSIRO, and representatives from Aboriginal groups and the pastoral industry.

The Centre promotes sustainable use and conservation of Australia's tropical savannas by acting as a bridge between agencies engaged in land and resource-management research, and research

users and decision makers. These include pastoralists, conservation managers, Aboriginal land managers, and the tourism and mining industries.

The Centre communicates the outcomes of its research and other knowledge about the savannas to ensure this knowledge can be used effectively by people living and working in Australia's savannas.

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## Tell us about your Kantri Laif

A NEW newspaper for Indigenous land and sea managers is set to hit the north with *Kantri Laif*, produced by the North Australian Indigenous Land & Sea Management Alliance. Tell us what is what is happening on your country and share information with other Indigenous people. To appear in the first edition, contact Lisa Binge.

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*Inset: Ctenotus rimicola, a recently described skink at Pigeon Hole. It is one of a number of reptile species only found in black soil grasslands and declines under heavy grazing pressure.*

*A number of cattle on the property will be fitted with high-tech collars that contain a global positioning system. Data will be logged on cattle movement so researchers can better understand cattle grazing activity.*

Photos: Alaric Fisher

## Project aims to beef up sustainability

ONE of the most comprehensive studies undertaken on pastoral sustainability in Australia was launched in early December last year. The Pigeon Hole Project, located on Heytesbury Beef's Pigeon Hole Station in the Victoria River District, is looking at boosting profits from pastoralism without damaging the environment.

Heytesbury Beef project manager, Dr Steve Petty, says the results from the Pigeon Hole project will underpin future development in the northern beef industry.

"A huge amount of information will be gathered over the five-year study and this will make an invaluable contribution to a sustainable beef industry in the north," Steve said.

Major industry partners, Heytesbury Beef and Meat and Livestock Australia, are joining forces with researchers from CSIRO and the Northern Territory Government in a commercial-scale project to assess sustainable grazing levels.

CSIRO's Dr Leigh Hunt says a major issue facing the pastoral industry is uneven grazing of pasture.

"Cattle only utilise a small portion of the total amount of feed in a paddock and this uneven grazing pressure not only reduces production dollars, but can result in land degradation," he said. "At Pigeon Hole we're looking at a number of ways to increase more uniform grazing, including changing paddock sizes and altering the number of watering points."

The project is also exploring how intensive pastoral use can have negative impacts on biodiversity, and is looking for ways to avoid this. Northern Territory Dr Alaric Fisher, a senior scientist with the Department of Infrastructure, Planning and Environment, says that although uneven or patchy grazing has its problems, it can actually benefit wildlife as the less heavily grazed areas provide a refuge.

"Pastoral areas in northern Australia still provide important habitat for native wildlife," he explained. "Several studies have shown that some species of native plants and animals decline or disappear as grazing pressure gets greater." Dr Fisher says

that his role in the Pigeon Hole Project team is to help ensure that the new grazing strategies did not result in a loss of biodiversity.

"We're looking at the effects of different types of grazing systems on biodiversity in the paddocks, particularly to see if there are thresholds of use above which biodiversity loss starts to occur."

Dr Fisher is also looking at the potential value of fencing off some areas within paddocks to act as ungrazed refuges for wildlife.

"This is an exciting opportunity to see whether these on-farm conservation areas can have a significant role in maintaining biodiversity on big pastoral leases," he said.

The Pigeon Hole Project is also supported by the Victoria River District Conservation Association, the University of Queensland and the Tropical Savannas CRC.

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## Queensland tables remnant vegetation management laws

THE much-debated Bill for managing remnant vegetation in Queensland was introduced to Parliament at the end of March. Vegetation Management and Other Legislation Amendment Bill 2004 aims to reduce broad-scale clearing of remnant vegetation to zero by the end of 2006. Managing regrowth is also targeted. Key features include:

- Protecting 'of concern' regional ecosystems on freehold land,

bringing this in line with existing protections on leasehold land.

- Developing regionally based codes for landholders to manage land in a locally relevant and sustainable manner.
- Thinning of thickened vegetation and clearing where woody species have encroached on grasslands.

Regional codes will draw on the work of community-based regional vegetation planning committees that has

taken place over the past three years.

However AgForce Queensland says the laws contain elements they had not been told about which will have a significant impact on farmers' productivity.

The group says it is seeking advice and may consider legal action against the Queensland Government over the new tree clearing laws.

Go to: <[www.nrm.qld.gov.au/vegetation/new\\_legislation.html](http://www.nrm.qld.gov.au/vegetation/new_legislation.html)>

## Funding success for northern projects

### Focus on fire management websites

The Tropical Savannas CRC has secured \$1.9 million from the Federal Government's Natural Heritage Trust to make fire management knowledge in north Australia more accessible. There are three parts to this project:

- Guidelines for good practice in managing fire in various situations will be developed in consultation with researchers and fire managers.
- Three linked websites will be developed: an improved version of the North Australia Fire Information Site to allow people to track fires more effectively; a new website for fire managers and planners that will outline good practice in fire management, provide access to fire research and provide tools for fire management planning; and a new website with general information on fire in northern Australia.
- People will be employed to work with a range of land managers to help them use this information.

The project will be carried out over the next two and a half years and will involve the major land management agencies, research institutions, and land manager groups in northern Australia. — See story opposite page.

Contact Peter Jacklyn: <peter.jacklyn@cdu.edu.au>

Web: <www.firenorth.org.au/nafi>

### Joint reports on fire and grazing

THE Tropical Savannas and Desert Knowledge CRCs will compile reports on fire and grazing management in the rangelands for the Department of Environment and Heritage. The reports will outline the factors that need to be included when drawing up plans for managing fire and grazing in the rangelands so as to minimise harmful impacts on biodiversity and cultural values. It will also collate information on previous fire and grazing management research projects in the rangelands. The reports are aimed at DEH planners and regional NHT groups in the rangelands, and should be completed by May 2004.

### NRM project in East Kimberley

The Tropical Savannas CRC has received \$870,000 from Land and Water Australia to coordinate a project on integrated NRM options for pastoral lands in the East Kimberley over the next two years. The Indigenous Land Corporation and the Department of Agriculture WA will also be contributing \$120,000 and \$130,000 respectively

to the project. The project builds on research already undertaken in the Ord–Bonaparte Program and has two main objectives:

- Finding options for sustainable Natural Resource Management (NRM) on properties. Key issues include managing grazing, fire, ferals and weeds; managing fire, ferals and weeds; conservation of biodiversity; managing key species and/or habitats of cultural significance; conservation of culturally significant sites; conservation of Indigenous knowledge systems; training in the use of and providing access to NRM relevant digital data.
- Outlining how institutions and policies can be better used to encourage sustainable NRM pastoral practices in the East Kimberley, and more generally, in northern Australia.

As well as the Indigenous Land Corporation and Ag WA, the project will be carried out collaboratively with various other organisations and agencies.

Contact Jeremy Russell-Smith, <jeremy.russell-smith@nt.gov.au>

### Indigenous Knowledge in the north

THE North Australian Indigenous Land and Sea Management Alliance (NAILSMA) and the TS–CRC have received \$300,000 from Land and Water Australia to help build Indigenous Knowledge capacity across northern Australia. The project runs from July 2004 to July 2006.

The project will, through consultation with Traditional Owners, develop a strategy for the maintenance, use, promotion and engagement of indigenous knowledge systems. It will:

- document the needs and aspirations of Traditional Owners regarding conservation of Indigenous knowledge.
- identify constraints on the use, articulation and engagement of Indigenous knowledge in broader NRM research and development across northern Australia, and developing strategies to overcome these constraints.
- develop a workable strategy for systematic conservation of Indigenous knowledge and its application to integrated NRM at local and regional levels.
- communicate these findings to ensure exposure to a broad audience and to swift investment in local and regional-scale knowledge conservation and application.

Contact Joe Morrison, TS–CRC, <joe.morrison@cdu.edu.au>

## Integrated land use under development for Daly region

**DEVELOPMENT of the Northern Territory's Daly region will be addressed by a community reference group established in November 2003. The group, chaired by Mr Rick Farley, will advise government on an Integrated Regional Land Use Plan, developed through community consultation, by September 2004.**

Territory Chief Minister, Clare Martin said three core principles

would drive future discussion about development in the region:

- There will be no dams on the Daly River.
- No further subdivision for agricultural blocks and no new land clearing will be approved until the Land Use Plan is complete.
- No cotton will be grown in the Northern Territory, and existing trials will be completed.

**Rick Farley provides advice to a range of Australian development companies and Aboriginal communities, is chairman of the NSW Resources & Conservation Assessment Council, Lake Victoria Advisory Committee and a community forum for review of the management plan for Kosciuszko National Park. Go to: <www.ipe.nt.gov.au/whatwedo/dalyregion/>**

# Website links the remote manager to fiery hotspots

The North Australian Fire Information website, developed by Ecobyte Systems, Tropical Savannas CRC and northern fire managers, has now been in use for some months. *Savanna Links* speaks to Peter Thompson, coordinator for the Cape York Sustainable Fire Management Project, on how the site has been received.



The website is being used throughout northern Australia. In Arnhem Land Andrew Edwards, Dean Yibarbuk and Otto Campion look at maps printed out from the website. Inset: Peter Thompson, a key player in ongoing development of the site

*What has been the impact of the North Australian Fire Information [NAFI] site?*

The uptake by the landowners has been very good. We're getting positive feedback from all of the people that we're talking to—I don't think there's too many that have had any negative comments at all, and they're certainly looking forward to its future development.

We were using a website of our own and manually uploading information to that website and getting it to people that way. It's certainly much more efficient for us to supply information through the NAFI process and it's a much better service.

*What are people using the site for mostly?*

To check on the location of fires of interest to them; knowing where that fire is, whether it's a threat to them and the time frame for it to become a threat. Once it is established as a threat, is the fire moving faster in one particular direction than the other? Where will it come to first, are there things in place that can be used as fire breaks—like for example burnt country, or whether it is being held on a particular side of a river or creek or road—that seems to be of prime importance to them, and particularly if the fire does jump across that barrier then they want to know about it as quickly as possible.

*I understand it's already saved a homestead?*

Yes it certainly has. That particular instance was a property that's not always manned. The manager was 200 km away and [after several calls tracking him down] I let him know there was a fire in close proximity and looked to be heading towards the homestead. He beat a hasty retreat back home and burnt around the property to save it.

Whether or not the house or property would have been actually burnt is not certain, but there certainly was a risk. The thing is that people are moving around the country all the time and basically the site gives people a lot better chance of getting back to their homesteads and dealing with the issues—they could be away for a week and suddenly find that it's all burnt.

*What if you haven't used the Internet much before?*

People that have been less exposed to computer programs

**The site displays hotspots—satellite-sensed locations of burning fires that are automatically updated every few hours—and fire scars on detailed digital maps.**

and the Internet find it quite easy to use as well. I just returned from a trip through Mount Isa showing a couple of people [how to do it] and they were able to very quickly pick it up and work out what the information was meaning to them.

*What is the improvement they'd most like to see?*

Access to the actual satellite images themselves—a picture is worth a thousand words really. The hotspot information as it is, is indicating where the approximate locations of the fires are, but it doesn't show the extent of the fires at any one time. What they are interested in is not only where the hotspots are, but what has been burnt to that minute or the latest available image.

*So the hotspots won't necessarily pick up all fires that are burning?*

They don't, often the hotspot information picks up only part of the fire, but the actual image shows the whole extent of the fire. This may be because a satellite has dropped out.

*Do you think that this web-based technology generally could have a broader impact on land management in northern Australia?*

I think that's almost a certainty. It is a matter of providing the right information at the right scale and at the right cost and people will use it. I think there's been an enormous amount of interest to date, and a lot of people are looking at opportunities beyond fire, and particularly things like ground cover and biomass and those issues that could have a lot to do with the economics of cattle operations, or any operations.

North Australian Fire Information: <[www.firenorth.org.au/](http://www.firenorth.org.au/)>

More information: Peter Thompson

Cape York Peninsula Development Association Inc.

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# Big Game in Africa: Theory and practice

The opportunity to see large African herbivores in the landscape in which they evolved is a truly remarkable experience for an Australian ecologist writes *David Bowman*.

Here, David contrasts some of the conservation challenges between Africa and Australia.



*The theme of African conservation is seen in the large game fences that separate the main contestants in the battle for land: local farmers and wildlife conservation.*

In Australian there is nothing quite like rhino, giraffe, elephant, buffalo and antelope ‘just there’ doing their thing. African megafauna have survived almost certainly because these animals evolved in tandem with humans. By contrast, nearly all the large Australian mammals became extinct immediately following the arrival of humans some 40,000 years ago, most probably because of hunting and increased frequency of burning of vegetation.

Africa exercises the mind because the choice between economic human development and conservation is much starker than in comparatively affluent Australia which has a population of 20 million compared to 45 million in South Africa alone—and South Africa is only about the size of Queensland.

Indeed the theme of African conservation is seen in the large game fences that separate the main contestants in the battle for land: local farmers and wildlife conservation. The survival of the big game behind those fences is far from certain and the search for their preservation raises unsettling philosophical questions concerning the broader aims and objectives of nature conservation.

### **Contradictions of a tourist attraction**

While game parks clearly protect big animals and provide invaluable opportunities for researchers it must be accepted that their existence depends upon ecotourism. This can constrain conservation research. A good example of this is the reluctance of wildlife managers to tag big animals as it is considered to diminish the safari experience of tourists. Yet such a prohibition limits the capacity of researchers to understand the population dynamics of large animals and therefore underpin their conservation with scientific knowledge. Paradoxically, tourists are oblivious to the paved roads that snake through game parks providing all-weather access for ‘game drives’.

Researchers and managers can argue over the relevance of research programs in addressing the immediate needs of park management. Nonetheless, the results of scientific research can greatly add to the tourist experience, provide a context to understand the dynamics of the wildlife populations and landscapes and reiterate the global significance of the conservation of large animals.

There can be no doubt the long-term survival of big game will remain uncertain until social and economic tumult associated with poverty and population growth subsides. In the meantime, management interventions will be required that have uncertain longer-term implications. For example, some game species have been ‘introduced’ into parks from outside their past known geographical range or have been re-introduced, often by happenstance and thus without clear objectives. It is an open question among African wildlife biologists whether the presence of these introduced animals adds or detracts from the natural qualities of a game park.

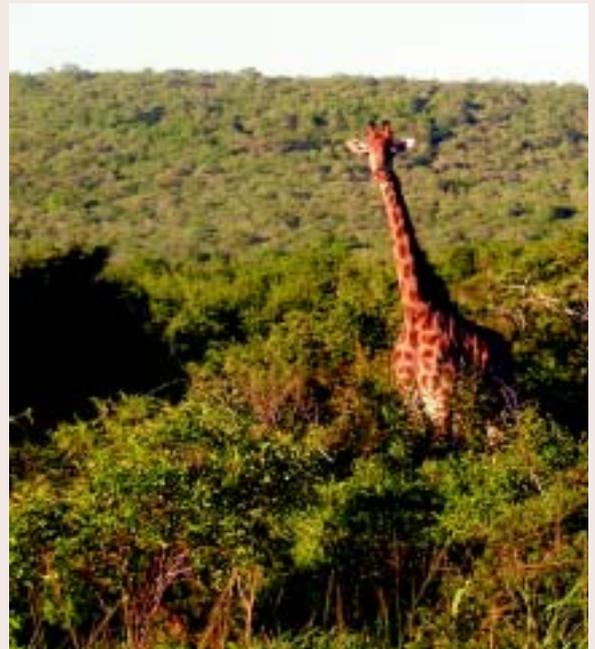
### **Conservation challenges**

Park managers and researchers agree on one thing: game parks are facing an emerging challenge in landscape change. African landscapes are highly dynamic and are responding to prehistoric and historic impacts of humans, the most obvious example being the widespread expansion of woody vegetation which is creating forests where once there was savanna.

However, little is known about the rate and magnitude of such landscape change, particularly whether it is a consequence of the halt to intentional landscape burning by indigenous people—the idea being that indigenous fire practices may have kept the growth of trees in check and maintained the savanna. If this idea is accepted then it it opens the door for managers to use fire once again to expand the savanna wildlife habitat at the expense of



All photos David Bowman



encroaching forests. Yet the destruction of forests will impact on biodiversity, causing the loss of a great diversity of plants and animals, particularly invertebrate species.

Given these conundrums what should be the core objectives of an African game park? One widely stated objective in South Africa is the maintenance of 'biodiversity' and 'ecological processes' but from my vantage point this is an unnecessary complication. I believe the primary purpose is the conservation of big African animals in a landscape that supports vegetation which co-evolved with these animals. This more modest objective provides an 'authentic', albeit contrived, tourist experience and provides ecologists with an extraordinary natural laboratory. Equally it presents land managers with the tough decisions that are associated with all rangeland systems where native vegetation is exploited for a set of explicit objectives. But such challenges are more achievable than the easily espoused 'feel good' objectives such as the preservation of 'biodiversity' and all possible ecological states.

Park management is a pragmatic art where there is a constant danger that losing focus of core objectives can result in a loss of globally invaluable biological heritage. I assert that to sustain the extraordinary achievement of the conservation of big African animals then the managers must avoid being deflected by intractable philosophical questions associated with unachievable objectives and keep their eye on the main game: the big game.

### Lessons for Australia

The thorny philosophical questions of Africa game management are instructive for Australian managers where aims and objectives are different. A core reason for these differences is our lack of charismatic megafauna with obvious economic and cultural value that people fly half way across the world to behold. For example, the fencing off of larger areas, like that practised in Africa, with the active removal of introduced animals to preserve native mammals remains uncommon in Australian conservation and has not been embraced by government land management agencies. Australian native animals and plants tend

to be valued in a less-focused way and are largely lumped together as 'biodiversity' that inhabits a vast 'outback' where it is threatened by cattle, feral animals and land clearance.

This 'whole landscape' focus has influenced conservation management policy in Australia within the relatively small proportion of the outback set aside as conservation reserves. Typically the core objective is the preservation of entire ecosystems thereby protecting all their native species and maintaining ecological processes. Just how successful this approach will be in the face of landscape change due to woody thickening, global climate change and feral invasion remains to be seen.

The less than perfect objective of 'off-reserve' conservation in which highly valued components of ecosystems such as riverside vegetation are protected within areas such as cattle stations, or a balance is struck between native plants and animals and pastoralism that eschews lands clearance has had only a belated serious consideration. Perhaps the key to the sustainable management of many northern landscapes may also lie with the management of our big animals—cattle.

Dr David Bowman is a Senior Research Fellow at the Key Centre for Tropical Wildlife Management, Charles Darwin University.

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### African reading ....

FOR those interested in reading about land management issues in Africa there is a new book available: *The Kruger Experience: Ecology and Management of Savanna Heterogeneity*.

Turn to page 14 for our reading section, and go to *In-depth look at park*.

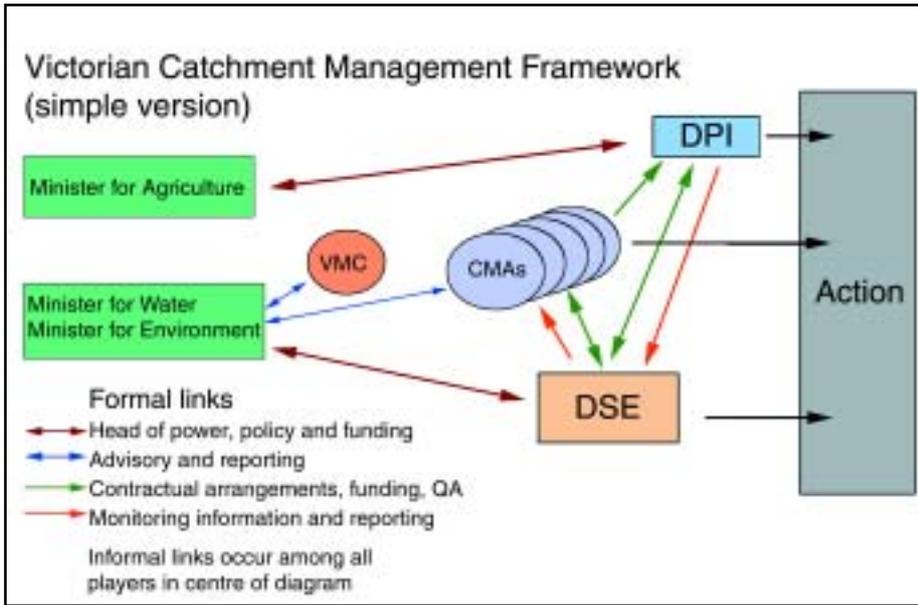


Figure 1: Chain of command in the Victorian NRM decision making process. This structure is being used as an NRM model for other states, and may suit the Northern Territory

**Definitions**

VMC=Victorian Catchment Management Council (the NT Landcare Council equivalent)

CMA=Catchment Management Authority (Regional NRM statutory bodies, there is no NT equivalent)

DPI=Dept of Primary Industry (DBIRD equivalent)

DSE=Dept of Sustainability and Environment (DIPE equivalent)

## NRM planning behind the 8-ball in the NT

Royce Sample, facilitator for the Victoria River District Conservation Association, provides food for thought on how NHT 2 could operate in the Northern Territory.

The long-awaited announcement that the bilateral agreement with the Commonwealth Government was signed in June of 2003—releasing NHT 2 funds for Natural Resource Management (NRM). However this release continues to be only an ‘Interim Bid’, meaning the Northern Territory’s Natural Resource Management funding continues on an ad hoc basis annually.

The process of obtaining more coherent and strategic long-term NRM funding from the Commonwealth hinges on the Northern Territory developing an Integrated Natural Resource Management Plan (INRM) and a Regional Investment Bid that have to be accredited by the Federal Government. Having been an interested observer and participant in developing these prerequisites in Victoria, I know this is not done overnight. In fact, it took Victoria the best part of five years. Also it is necessary to have some organisational structure and community consultation process in place to achieve the desired results.

From my observations these elements are only in their infancy in the Northern Territory—despite having several years to prepare for the not unexpected requirements of the Federal Government.

Federal Agriculture Minister Warren Truss has said that the new NHT will be “much more regionally focused, with projects being identified at the local level and funding going to achieving larger-scale objectives.” Clearly there is a perception the old way the states and territories handled NHT funds was not achieving national NRM goals, with the majority of funding never reaching the ground.

### How the NT implements NHT initiatives

The NT Landcare Council will perform the role of the main regional body for the purposes of implementing Commonwealth NRM initiatives such as the extension of NHT 2. Being familiar with how its counterparts in Victoria

and New South Wales operate, and the role other organisations play in catchment management arrangements, I believe it is a tall order for this advisory group to perform all the functions expected of it.

This does not imply any criticism of the Council, only of the tasks allotted to it as I understand them.

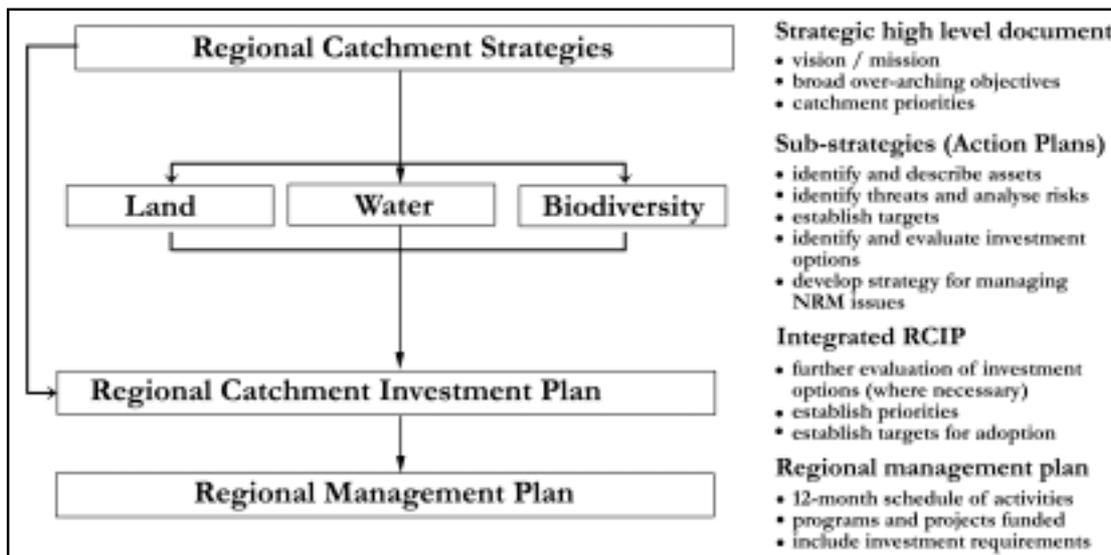
I believe it may be useful for people interested in NRM matters to examine Victoria’s structure as it is the state with the longest experience with these arrangements. This is not because it is the preferred model but because it is being used as a model by other states and, with modifications, may suit the Northern Territory.

Figure 1 (above) shows the chain of command in NRM decision making. Note Victoria has 10 catchment management authorities (CMAs) which are professionally staffed, based on river catchments and have minister-appointed community boards that set regional strategic direction. The Victorian Departments of Primary Industry (DBIRD equivalent) and Sustainability and Environment (DIPE equivalent) are primary service delivery agencies who are contracted to deliver NRM outcomes and advise on strategic direction. Figure 2, overleaf, shows the components needed to satisfy federal requirements before receiving NHT 2 funding and how they relate to one another.

### Future direction? Some questions

The Northern Territory will be treated as a single region despite its large size but obviously there will have to be some input by sub-regions to cater for the huge variations in issues, climate and landscape. The real challenge is how to achieve ownership of the strategies and the INRM plan by the various stakeholders via the community public consultation process in such a short time frame.

So far natural resource planners are being appointed but the consultation process details are unknown though initial indications are these generally will be directed by



*Figure 2  
The necessary components needed to satisfy federal requirements prior to receiving NHT 2 funding and how they relate to one another*

DIPE. In Victoria and NSW strategic planning functions are undertaken by community boards—supported by professional organisations separated from previous bureaucratic structures.

Is it possible for the NT Landcare Council to act as the government advisor, reflect community aspirations, determine the strategic direction, oversee the preparation of the INRM plan, assess and determine the plan's investment bid and report on the outcomes of the plan without any of the new professional organisational structures used by other states? Or is institutional reform in the too-hard basket? In Victoria and New South Wales there is much reliance on partnership funding arrangements between community (Landcare, etc.) groups, NGOs (Greening Australia, etc.) and various government agencies to implement programs. Is this a model being actively pursued in the NT?

It appears NHT 2 has finally set sail to the NT—but is it with the correct chart and compass?

#### About the Author

Royce Sample has spent 15 years in extension and consulting work, mostly on sustainable agricultural production. He has managed integrated pest animal programs, national and regional grazing programs, national land use change programs and worked for a Catchment Management Authority. He has undertaken postgraduate study in regional policy making and adaptive management, and is currently employed by the Victoria River District Conservation Association and based in Katherine, Northern Territory. The views expressed in this article are his personal opinions.

#### Contact information

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#### Acknowledgements

Thanks to David Cummings, Victorian Department of Sustainability and Environment for the diagrams used in this article.

See overleaf for an on-the-ground viewpoint from Julia Chalmers who coordinates the Roper River Landcare Group — p.10.

## Strategic alliance for tropical knowledge

TROPICAL knowledge is set for a boost with the signing of a Cooperative Framework on Tropical Science, Knowledge and Innovation by the Northern Territory, Queensland and Western Australian governments. The framework aims to promote and develop the north's strengths in tropical science and to strengthen linkages between all stakeholders.

The framework was signed in March at the Tropical Futures Forum by Premiers Peter Beattie and Geoff Gallup, and Chief Minister Clare Martin. The forum brought together leaders in their fields from research, government, industry and community to consider challenges, opportunities and priorities for tropical knowledge and innovation in the north. More than 150 delegates were invited to the

forum. A summary report outlining the key outcomes will be available soon from the Tropical Futures Forum website (URL below).

Another initiative mooted at the Forum was the development of a tropical science precinct at James Cook University in Townsville, which would draw on expertise from research agencies from across the region, with CSIRO as a key partner.

"JCU aims to become the R&D headquarters for north Queensland," said JCU Vice-Chancellor Prof. Bernard Moulden. "We're seeking to bring together on to one site as many as possible of the R&D providers of the region with a view to creating the largest aggregation of tropically focused researchers in the world."

Charles Darwin University Vice

Chancellor, Prof. Helen Garnett, says northern Australia has the potential to be a world leader in tropical issues such as health and environment, including how that influences the built environment.

"Charles Darwin University, like JCU, is specialising in niche areas where we can be different," she explained. "Tropical research, like desert research, is one of the areas that Charles Darwin University is focused, that has great importance in Australia and is relevant elsewhere."

Tropical Futures Forum (NT)  
<[www.tropicalfutures.nt.gov.au/](http://www.tropicalfutures.nt.gov.au/)>  
Queensland Tropical Science  
<[www.iie.qld.gov.au/research/downloads/tropical\\_science.pdf](http://www.iie.qld.gov.au/research/downloads/tropical_science.pdf)>  
Western Australia Science  
<[www.scitech.org.au/sciencewa/](http://www.scitech.org.au/sciencewa/)>

# Switch on to Landcare knowledge for better research collaboration

Julia Chalmers coordinates Roper River's Landcare Group. Together with Greening Australia and the VRD Conservation Association, she helped organise an NRM forum in Katherine in November 2003.

*Savanna Links* spoke to her about the forum and about what it was like running a Landcare Group in a region that doesn't see a lot of NRM research.



Photo: Peter Jacklyn

*What was the idea behind the NRM forum?*

I was hoping to get researchers to engage more with Landcare groups and landholders so that the knowledge and research that is being generated can actually be taken up and used. For example, I had a look on the Tropical Savannas CRC website, and found a lot of stuff but it was not getting through to landholders because they weren't aware of all the research that had been done or how they could use it. Without research that is actually done in the region, people find things hard to relate to.

*So if research had been done in the northern VRD or Kakadu, then it wouldn't be considered relevant?*

Yes—it's very easy for landholders to say 'oh that's not relevant because it wasn't in my area'.

*Since the forum, can you see ways in which the Roper River people can better engage with that research?*

Definitely. I was pleasantly surprised to find that all the researchers who came along were keen to develop better links with Landcare groups and landholders. I think the intention is there—we've just got to set up some way of making it happen a bit easier.

*What can researchers do to link up better with the users of their research?*

Contacting Landcare groups is a good idea because increasingly these groups are interested in developing relationships with researchers and organising their own research—and they have links to landholders in the region that are switched on to doing things in different ways.

*With the onset of NHT 2, are Landcare groups keen to get a grip on research that is relevant to their regions?*

Yes, I think so. Landcare groups in the past did a lot of projects that were directed only by themselves, but NHT 2 is now operating on a regional and strategic scale. So there is a demand to be involved in the regional context, and to make decisions about where projects take place and what issues should be tackled in projects. You need to have a good understanding about what's in the catchment and I guess that comes from research.

*So one of the things that would be handy are documents that summarise issues within a particular region?*

That's what we are starting to do at the moment with our catchment NRM plan. But we're drawing our information from work that was done years ago and the region has developed quite a bit since then

*Are the sort of issues that you are interested in the usual suspects—managing weeds, grazing, erosion and fire?*

All of those, but as our river also goes out to the coast, one of the projects we have just put together is a coastal management plan for the mouth of the Roper. That is something as a Landcare group we haven't engaged with before, and I found that there wasn't very much biophysical information around.

*I understand you're also looking at ways to make land management more compatible with biodiversity?*

We're putting together the information at the moment, and this is probably the only research partnership the Landcare group has: we're working with Alaric Fisher [a wildlife researcher from NT DIPE and TS-CRC] and he has done surveys on a few pastoral properties and is putting together guidelines on how property managers can manage biodiversity as well as their own enterprise.

*What are the deadlines like for NHT 2?*

NHT 2 was meant to be about being strategic and long term and it has not been anything like that in the last two years; projects have had to be put together in a very rushed fashion. We are now in our second "interim" year, otherwise known as the "interim – interim" year; we had less than three weeks to put together our major projects for the next year which was a very challenging task.

*So what keeps you going in a job like this?*

I like that it has both links to what is happening on the ground and also to having a say in the wider NT context. I enjoy visiting people on their properties and communities, talking about ideas that we can put into practice, to address the things that they have identified as issues.

—Interview: Peter Jacklyn

For a list of key people in on-ground NT Landcare activities:

<[www.lpe.nt.gov.au/care/LANDCARE/contacts.htm](http://www.lpe.nt.gov.au/care/LANDCARE/contacts.htm)>

For Queensland coordinators:

<[www.landcareqld.org.au/regions/index.php](http://www.landcareqld.org.au/regions/index.php)>

# Guide to northern bush regeneration

*From Seeds to Success—a bush regeneration manual for Townsville, Thuringowa and the Burdekin* by Katrina Cullen, Karalyn Herse and Sari Mangru

Review by Tony Grice

The growing interest in and spreading practice of bush regeneration in Australia has been accompanied by the publication of a number of books on the subject. This book, however, *From Seeds to Success—a bush regeneration manual for Townsville, Thuringowa and the Burdekin* fills an important gap in this literature by providing a manual for the coastal dry tropics of north east Queensland. It provides essential background information and practical guidelines for maintaining and restoring native plant and animal communities of the Townsville Plains sub-region of the extensive Brigalow Belt Bioregion.

## Clear signposts to bush regeneration

Following a brief introduction, the book is divided into 13 logically ordered sections plus five helpful appendices.

Section 1 briefly describes the Townsville Plains environment and its eight main habitats and lists the defining plants species of each. Sections 2–5 describe how the features of vegetation remnants influence the value of the habitat they provide; the nature of habitat degradation; and the role of fire in the dry tropics.

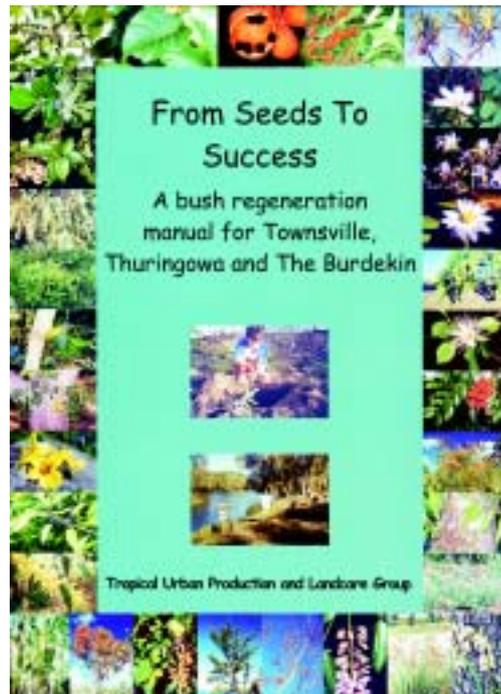
Sections 6–11 identify six aspects of bush regeneration projects and provide the practical guidelines for carrying them out. They lead the practitioner through the planning phase, how to assess a site for a regeneration project, site design, how to propagate native plants, site preparation, plant establishment, maintenance and monitoring.

Section 12 focuses on managing remnant vegetation and Section 13 provides four case studies of bush regeneration from the Townsville Plains sub-region. The five appendices provide further useful advice and information: (1) practical rules of thumb for regenerating each of the eight habitats; (2) an example data sheet for plot-based monitoring of regeneration projects; (3) a list of the weeds of the Townsville Plains sub-region; (4) useful contact details; and (5) references. And, tucked away inside the back cover, is *Plant Species for Revegetation in the Townsville Thuringowa Region* (3rd edition), a booklet that lists many of the local native plant species, their preferred habitats, growth form and fruiting season.

*From Seeds to Success* has a straightforward, easy-to-read style. Its openly spaced text in A4 format makes frequent use of a dot-point layout, and is illustrated with simple line drawings, scattered black-and-white photos, and four pages of colour. Clearly, the book is designed to help those individuals or groups who want to ‘do’ bush regeneration rather than just read about it.

## Seed germination, watering points and weeds

The book makes a few statements that could be debated or that would benefit from further clarification. For example, in relation to seed pre-treatment to promote germination, the authors state “seeds of many species...will only germinate when environmental conditions



*The manual aims to achieve “environmental, economic and social balance” through bush regeneration*

are suitable for germinating seedlings to survive”. It seems likely, however, that most natural seedlings of most species do not make it through to reproduction, though one would expect to achieve much higher survivorship in regeneration plantings. In the section on watering points some further explanation is justified for how “strategic watering points” can be used to protect wetlands and riparian zones.

The authors also take a surprisingly negative attitude to biological control as a means of managing weeds, almost dismissing it with, “This method can be expensive and controversial and it may take years for results to be seen” (p. 37). They fail to acknowledge the significant, safe achievements of scientific biological programs and their potential to help attain the “self-sustaining” sites that are the result of successful regeneration programs (p. 48).

In fact, the extent of the weed threat to native vegetation is such that, in the absence of effective biological control, most sites will need ongoing weed management—minimising disturbance will not always protect a site from weeds.

## Book encourages practical involvement

Overall *From Seeds to Success* achieves its aim: “to sow the seeds of success, achieving environmental, economic and social balance” through bush regeneration in the Townsville Plains. It enthuses and encourages practical involvement. It is a useful guide for the novice or for experienced regenerators in the dry coastal tropics of Queensland, but would also be of value in comparable areas in other parts of the country.

Tony Grice is an ecologist working on invasive species. He is based at CSIRO Sustainable Ecosystems’ Davies Laboratory in Townsville.

Available at Mary Who bookstore, James Cook University and the Townsville Landcare Centre, Tel: 07 4721 4322 (discounts for bulk orders).

## Education in the rangelands

RANGELANDS Australia (RA), a national body for the exchange of rangeland knowledge and learning, is developing an educational program relevant to rangelands after extensive consultation with more than 400 people in the rangelands to determine their education and skills needs. Short courses and postgraduate coursework programs are under development, targeting rangeland managers, community groups (such as Land-care) government advisers, private consultants, R&D professionals, and training and service providers.

The first of the short courses was piloted late in 2003 at the University of Queensland's Gatton Campus, with postgraduate coursework programs in rangeland management getting under way in early 2004. Topics in the short courses in 2004 include 'Being heard in the rangelands', 'Rangeland monitoring', 'Success in diversification in the rangelands', 'Being in the rangelands for the long run', and 'No surprises in the rangelands'. Postgraduate courses in Rangeland Management available by distance education include Graduate Certificate, Diploma and a Masters program. Go to: <[www.rangelands-australia.com.au](http://www.rangelands-australia.com.au)> Rangelands Australia, UQ—Gatton campus Tel: (07) 5460 1660 Fax: (07) 5460 1661 Email: <[rangelands@uqg.uq.edu.au](mailto:rangelands@uqg.uq.edu.au)>

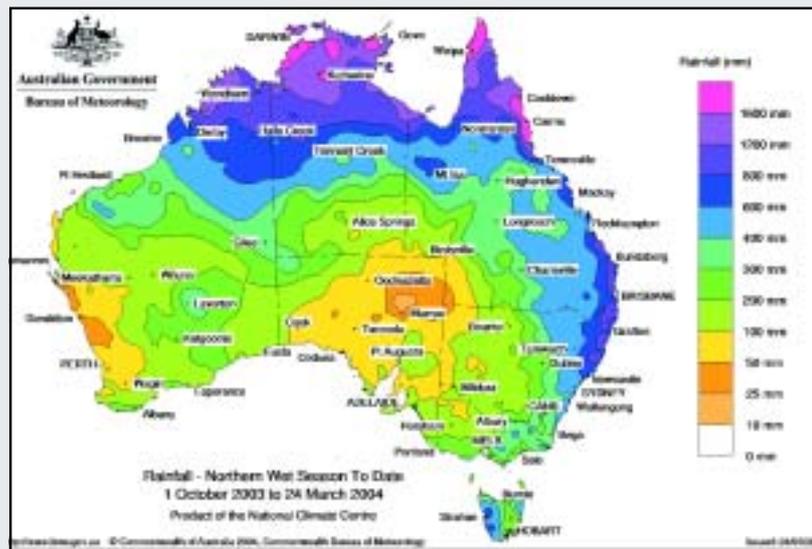
## Brolga awards

RICK Murray, of Odyssey Tours and Safaris and president of the Tourism Council NT, and Paul Styles, of the NT Chamber of Commerce and branch manager of the Tourism Council NT, received Awards for Tourism Excellence at the NT Brolga Awards. Rick, a TS-CRC Board Member, received the *Outstanding Contribution by an Individual* award. Paul, a TS-CRC Savanna Advisory Committee member, received the *Ministers Special Recognition Certificate for Contribution to Tourism*. The Brolgas are the NT's most prestigious tourism awards and are designed to encourage excellence in tourism.

Go to: <[www.brolgaawards.com.au/2003.html](http://www.brolgaawards.com.au/2003.html)>

## Surveillance on Torres

TWO land use agreements were signed in February with Torres Strait Islanders to improve border protection for northern Australia. The agreements will permit the Australian



## Records set for welcome wet

AS rain fell in over the summer, so too, did rainfall records in many parts of the Northern Territory. The Victoria River Downs and Daly Waters areas had more than three times their normal rainfalls for February, with 579 mm and 525 mm respectively, breaking long-standing records of 116 and 112 years.

But record rainfalls were not confined to just these areas. Galiwin'ku (Elcho Island), other parts of Arnhem Land and the Katherine region experienced record rains this wet season (October to end of February). Tindall RAAF station recorded 1766 mm, surpassing the previous record for this period by a staggering 828 mm!

Tropical Cyclone rain systems were the cause of these excessive rainfall figures with ex-Tropical Cyclones Debbie in December, Fritz in February and the recent ex-Tropical Cyclone Evan set to put more pressure on the rainfall records for March.

In Western Australia, much of the north of the state received good rain with pockets of record rainfall between Halls Creek and Wyndham. In the east, several Queensland centres received their wettest January since the floods of 1974, with Emerald at 211 mm, Longreach 199 mm, and Mount Isa 392 mm. Mount Isa recorded its highest ever 24-hour rainfall total of 213 mm in mid-January.

Wet conditions continued in March with a low pressure system off Cairns causing substantial falls in areas from the Cape to Ingham on the east coast. In the NT over the same week Numbulwar had 222 mm, Pirlangimpi 212 mm and Ngayawili in the Darwin-Daly 172 mm. Go to: <[www.bom.gov.au](http://www.bom.gov.au)>

Government to set up a trial of high-frequency surface wave radar, via transmitter and receiver sites on two Torres Strait islands. A two-to-three year trial of the radar begins in August, where it will provide 24-hour, wide-area surveillance of aircraft, ships and boats. The 440-metre long receiver array will be situated on Dauan Island, in the northern Torres Strait, while the transmitter will be sited on the uninhabited Koey Ngurtai ("Pumpkin") island, which is administered by nearby Badu Island, in the middle of Torres Strait. The \$19 million initiative is funded by Customs and Defence.

## Online sustainability

AN Internet conference on sustainability, held over nine months, has posted a 6000-word conference communiqué with 34 recommendations for local, state and national action.

There are 85 papers on nine separate themes including water, health and well-being, land use and sustainable ecosystems, energy, economic systems, equity and peace, climate, labour force and work, and transport and urban design.

Go to: <[www.isosconference.org.au/entry.html](http://www.isosconference.org.au/entry.html)> under the button Communiqué.

## Stories from a multi-racial past

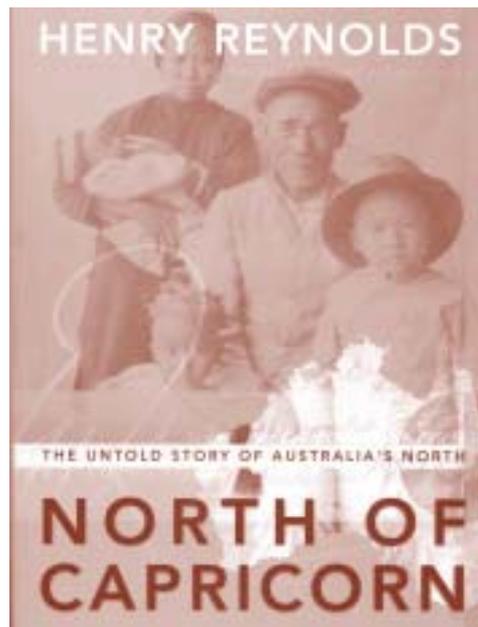
IN this book, Professor Henry Reynolds reveals two Australias at odds in the last half of the 19th century—the predominantly white south, and that north of the Tropic of Capricorn: multi-racial towns and settlements and the great tribal areas of Cape York, Arnhem Land, the Kimberley and the Sandy Desert.

Prof. Reynolds recounts the political battle that reversed the multi-racial trend and saw the diverse north conforming to the racial imperative of White Australia. The exotic past of many of our northern towns is not at all obvious, and this account shows the diversity and industry of the people that shaped our early colonial history.

The historical view along the east–west axis of Australia reveals fascinating and culturally diverse societies: Melanesian cane-workers, Chinese entrepreneurs, Japanese deep-sea divers—all to eventually disappear with the introduction of the White Australia policy in 1901.

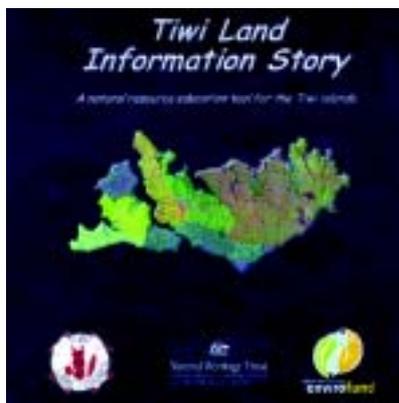
It also recounts the traditional bonds between coastal Aboriginal people and Macassan (Indonesian) fishermen, who had been visiting the north coast for several hundred years. The Macassans had been “woven into legend, kinship networks and coastal economies” but these ties were lost after trade was forbidden in 1906.

From the Melanesians in Mackay, and the Chinese in far north Queensland and Darwin, *North of Capricorn* explores an untold and moving history of the achievements and struggles of the forgotten peoples of northern Australia. — Kate O’Donnell



The book's cover shows a Darwin Chinese family. Chinese merchants and investors were powerful and influential figures in the north

Publisher: Allen and Unwin, ISBN: 1 86508 030 6  
Web: <[www.allenandunwin.com](http://www.allenandunwin.com)>



### Birds-eye view of Tiwi NRM

*Tiwi Islands—Land Survey Information CD-ROM* presents a unique combination of 3D satellite image animation and aerial video, with Ted Egan narrating, to create an exciting experience that explores the islands’ resource management issues.

The Tiwi Islands encompass Bathurst Island and Melville Island—which at about 780,000 hectares is the second largest island off mainland Australia. Sixty kilometres of water between Darwin and the Tiwi Islands have provided a useful barrier in allowing the Tiwi people largely unrestricted use of their own land over many centuries.

The Tiwi Land Council developed

this multimedia CD-ROM to provide Tiwi landowners and children information about new ways to manage their natural resources. Videos of traditional dances, such as the Rainbow Serpent (Ampiji), are included—each from a different traditional area of the island. There is information on plants and animals, an interactive Indigenous calendar as well as cartoons illustrating stories of the sea.

There are also bird’s eye views of each of the islands’ eight areas—such as Mantiyupi country, where most Tiwi Islanders live. As this areas is where the islands connect to mainland Australia, it is threatened by weeds such as gamba grass and mimosa and feral animals such as buffalos and cane toads.

Produced by Cycadmedia in Darwin, Land Survey Information is an innovative educational tool for Tiwi Island primary schools. It sits on the school computer network in both Tiwi and English. — Julie Crough

Contact: Tiwi Land Council Offices at Darwin, Nguu, Pirlangimpi, Milikapiti,  
Tel: (08) 8981 4898 Fax: (08) 8981 4282

### Indigenous links to mining

THE Australian Bureau of Agricultural Resource Economics (ABARE)

report, *Indigenous People in Mining*, involves a survey of mine sites in Australia to obtain information, from a mining industry perspective, on employment of Indigenous people and other economic linkages between mine sites and Indigenous communities. The results will be used in the Working in Partnership Program to provide support for future program initiatives.

Free: <[abareonlineshop.com](http://abareonlineshop.com)> ISBN: 06427649

### Beyond reasonable drought

*BEYOND Drought: People, Policy and Perspectives* aims to increase the level of understanding of drought’s many facets and its impact on the environment, communities and the economy. The book tries to stimulate reasoned discussion about the best way that Australian farmers and the broader community can live with climatic variability. The book overviews the Australian climate; invites the reader to consider the various facets of drought and the appropriate public policy response; and takes account of developments in climate science as well as changes in policy approach over the past 30 years.

RRP \$39.95, CSIRO Publishing, ISBN 0643069542, 224 pages

## Northern fire research

*FIRE and Savanna Landscapes in Northern Australia: Regional Lessons and Global Challenges* is a special issue of the International Journal of Wildland Fire. The volume addresses peer-reviewed papers from the recent international conference, Savanna Landscapes in Northern Australia—fire and heterogeneity. Edited by Jeremy Russell-Smith, Dick Williams, Peter Whitehead, and Mike Flannigan, the volume addresses issues through the themes of fire patterns at the savanna-wide scale; fire regimes and regional landscape dynamics; and managing fire for desired landscape states.

CSIRO Publishing, ISBN: WF12/3/4: \$95.00  
<[www.publish.csiro.au/nid/114.htm](http://www.publish.csiro.au/nid/114.htm)>

## Sustaining the Burdekin

*NATURAL Resource Management in the Burdekin Catchment: Integrated Assessment of Resource Management at the Catchment Scale—A Case Study* seeks to identify sustainable management options for Australia's river catchments and their adjacent coastal and ocean areas. It aims to integrate what is known about catchment hydrology and other physical processes with socio-economic and industry information in an economic framework to arrive at options for action in the Burdekin Catchment.

ISBN: 06427647948

Download free <[abareonlineshop.com](http://abareonlineshop.com)>

## Manual tackles weed threat

A *NATIONAL Best Practice Manual* for the control and management of mesquite, a weed of national significance, combines a comprehensive range of control and management tools and is applicable all over Australia. It was developed to present the current knowledge of mesquite and to assist land managers in planning and implementing control programs at the infestation and property levels. Mesquite infests more than 800,000 hectares across most states and territories, and forms dense thickets that displace native species leading to erosion, loss of productivity and ultimately, desertification.

Free: Rachele Osmond Tel: (07) 4688 1056  
Email: <[Rachele.Osmond@nrm.qld.gov.au](mailto:Rachele.Osmond@nrm.qld.gov.au)>

## Fire policy and management

*AUSTRALIA Burning: Fire Ecology, Policy and Management Issues*

addresses the urgent need at a national level for the integration of both the natural and social sciences in the formulation of public policy about the phenomenon of fire. There are contributions from 30 leading experts under the themes ecology and the environment; fire behaviour and fire regime science; people and property; policy, institutional arrangements and the legal framework; Indigenous land and fire management. CSIRO Publishing, ISBN: 0643069267: \$39.95

## Compendium digs into soils

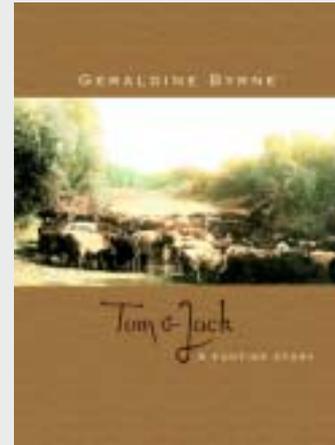
*AUSTRALIAN Soils and Landscapes: An Illustrated Compendium* is a unique reference to the soils and landscapes of Australia. The book explains how the distinctive systems of soils and landscapes have co-evolved and why specific soils occur in certain locations. It describes and illustrates more than 100 of the most important and widespread soils in Australia and their associated landscapes. There is a brief account of each soil's environment, usage and qualities as well as information on chemical and physical properties to help readers make informed decisions about appropriate land use.

CSIRO Publishing, ISBN: 0643 069 585: \$110

## Science mysteries unravelled

*BUM Breath, Botox and Bubbles* is Dr Karl Kruszelnicki's fifth book in the series, Fully Sick New Moments in Science, in which he continues to demystify and popularise scientific discoveries and endeavours. Karl provide insights into facts behind scientific successes, but he also lets the reader in on some of the disasters.

ABC Books: RRP \$24.95



## Battlers in Grass Castles

*Tom and Jack—a Frontier Story* chronicles the lives of the Kilfoyles, cousins of the Duracks, who played a major part in the original overland cattle drive from Queensland to the Ord River and were instrumental in establishing the cattle industry in the Kimberley.

Geraldine Byrne, granddaughter of the Kilfoyle clan, explores the life and times of the Kilfoyle family whose history in the north dates back to 1855 when 12-year-old Tom Kilfoyle arrived in Australia from Ireland on a two-quid ticket.

He became a drover and cattleman, who overlanded with the Duracks, eventually establishing Rosewood station on the WA-NT border. Both Tom and his son Jack were known for progressive land management and respect for Indigenous people.

Fremantle Arts Centre Press ISBN: 1 92073 107 5: RRP: \$29.95

\*\* ABARE's publications are now available electronically and free at <[www.abareconomics.com](http://www.abareconomics.com)>

## In-depth look at park to help protect its future

FOR those who are interested in land management issues in Africa, *The Kruger Experience: Ecology and Management of Savanna Heterogeneity*, is an essential read. As the title suggests, *The Kruger Experience*, explores the Kruger National Park in South Africa. Spanning 2 million hectares, Kruger mirrors Kakadu in size. Editors Johan du Toit, Kevin Rogers and Harry Biggs, offer an in-depth history dating back to the hunter-gatherer period as well as an analysis of the management and research methods that have governed Kruger for the last century.

The book provides important information about the park's rich flora and fauna and addresses the increasing pressure the park faces from surrounding agricultural and industrial land use. The book's contributors argue that scientists and managers must increase Kruger's value to the public if it is to reduce its susceptibility to human pressures.

Cost: Paperback: \$40, ISBN: 1-55963-982-2, Island Press, November 2003

## April

### Indigenous Knowledge and Bioprospecting 21–24 April, Sydney

**Venue:** Macquarie University

This conference aims to provide a forum where Indigenous peoples, scientists, and lawmakers can consult on positive responses to the \$200 billion bioprospecting industry whereby about 25 per cent of the world's pharmaceutical products are mostly found in Indigenous communities. The consultation will focus on three key areas related to Indigenous knowledge and bioprospecting: Respond to Indigenous Needs; Value Indigenous Knowledge; and Enhance Biocultural Diversity. A forum will follow the conference to discuss issues associated with the development of positive resources and potential pathways of social and economic development for Indigenous communities. A children's conference on Celebrating Indigenous Knowledge will be held in parallel. Plans are under way to digitally video the conference so that it can be 'viewed on demand' by Indigenous communities or institutions who want to participate remotely.

**Contact:** Chris Jones

**Email:** Chris.Jones@law.mq.edu.au

**Web:** <www.ocs.mq.edu.au/~cjone005/index\_conference.htm>

## May

### Hilltops to Oceans Conference 1–14 May 2004, Cairns

**Venue:** Cairns International Hotel

The United Nations Environment Programme (UNEP) and partners launched the Hilltops-2-Oceans (H2O) Initiative as an official Type II Partnership at the World Summit on Sustainable Development (WSSD), held in Johannesburg, South Africa. The H2O Initiative aims to further the environmental, economic and social importance of oceans, coasts, and islands. The conference aims to renew the commitment of governments and other stakeholders to the need for sustained and adequately resourced action to protect the marine environment from the harmful effects of activities from the hilltops to the oceans.

**Contact:** UNEP/GPA Coordination Office

David Osborn Tel: +31 70 40311 4473 Email: <h2o@unep.nl>

Erin Hyland, Tel: +31 70 311 4467 Email: <h2o@unep.nl>

**Web:** <www.hilltops2oceans.org>

## June

### Sharing Indigenous Wisdom: an international dialogue on sustainable development 6–10 June, Wisconsin, USA

**Venue:** Radisson Hotel and Conference Center, Green Bay

Hosted by the Sustainable Development Institute, the conference will explore successful models of sustainable development that allow for the preservation of indigenous lands, sovereignty and culture, while also allowing for the integration of economic development, institutional capacity building and technological advancement.

**Contact:** Delia Kundin

**Postal:** College of Menominee Nation

PO Box 1179, Keshena, WI. 54135

**Tel:** 715 799 5600 **Fax:** 715 799 5951

**Email:** <dkundin@menominee.edu>

**Web:** <www.sharingindigenouswisdom.org/>

### Estuaries and Change Conference 20–25 June 2004, Ballina, NSW

**Venue:** Southern Cross University

The next joint Estuarine and Coastal Sciences Association and Estuarine Research Federation International Conference will explore the theme: 'Response of tropical, temperate and polar estuaries to natural and anthropogenic changes'. Sessions will cover physical, biogeochemical, biological and cultural change and management of change.

**Contact:** Karen Hanna, **Email:** <khanna@scu.edu.au>

**Web:** Southern Cross University: <www.scu.edu.au/ecs37erf2004conference>

Estuarine Research Federation: <www.erf.org>

Estuarine Coastal Science Association: <www.ecsa-coast.org>

## July

### 3th International Soil Conservation Organisation Conference: Conserving soil and water for society—sharing solutions 4–9 July, Brisbane

**Venue:** Brisbane Convention Centre

Staged by the Australian Society of Soil Science Inc. and the Australasian Chapter of the International Erosion Control Association, the conference will cover activities from research to facilitation, from modelling to measurement, from science to policy and practice that moves us forward in meeting society's needs.

**Contact:** Conference Secretariat: ICMS Pty Ltd

**Postal:** 82 Merivale Street SOUTH BANK Qld 4101

**Tel:** (07) 3844 1138 **Fax:** (07) 3844 0909

**Email:** <isco2004@icms.com.au>

**Web:** <www.isco2004.org>

### The Australian Rangeland Society 13th Biennial Conference 2004 5–8 July, Alice Springs

**Venue:** Minnamurra Hall, St Philips College

The conference theme is 'Living in the Outback' and covers isolated people, with a wide variety of values and needs, creating opportunities within the characteristics and capabilities of rangeland environments. Today's challenge is to achieve economic development through the sustainable use of resources while encompassing the social and cultural values of rangeland communities. Some questions the conference will canvass are: How do people in the rangelands learn to incorporate wider community values into their management programs? How do we establish unique and viable business systems and better manage risk?

A heavily discounted registration fee will be offered to rangeland land managers and students. Members of the Society are eligible to apply for an ARS Travel Grant. Application forms can be downloaded from the ARS website.

**Contact:** Sarah Nicholson, Conference Secretariat, Intercomm Event Coordination

**Mobile:** 0419 815 864

**Email:** <intercomm@ozemail.com.au>

**Web:** <www.austrangesoc.com.au/conferences.asp>

## International Conference on Storms Brisbane 5–9 July 2004

**Venue:** Mercure Hotel

The conference will be held in conjunction with the annual national conferences of the Australian Meteorological and Oceanographic Society (AMOS) and the Meteorological Society of New Zealand. Multidisciplinary themes include: the science of storms, observations, dynamics, prediction on all time scales, impacts and risk assessment, and mitigation.

**Contact:** Organising Committee

**Postal:** AMOS International Conference on Storms  
Commonwealth Bureau of Meteorology

GPO Box 413 Brisbane Qld 4001 Australia

**Tel:** (07) 3239 8679

**Email:** <stormsconf@bom.gov.au>

**Web:** <www.stormsconf.org.au/>

## 7th International River Management Symposium: Threats to Sustainable River Systems—Beating the Odds 31 August – 3 September, Brisbane

Brisbane's International Riversymposium examines world's best practice in river and watershed management and provides a forum for science, research, management and policy development. The key focus will be on threats to maintaining sustainable rivers, and the problems facing rivers and waterways and innovative solutions developed to counter them.

**Contact:** Stephen Nelson, Manager

**Tel:** (07) 3846 7444 **Fax:** (07) 3846 7660

**Email:** symposium@riverfestival.com.au

## September

### Sustainable Economic Growth for Regional Australia (SEGRA) 8th National Conference 6–8 September, Alice Springs

**Venue:** Alice Springs Convention Centre

The theme for the conference is Big Ideas for Regional Australia: Breaking New Territory.

SEGRA 2004 will focus on how regions can work collaboratively across regional boundaries to develop capacities, identify emerging trends and issues and seize opportunities. Issues to be addressed include developing allies and partnerships; gaining and exerting influence; tackling governance issues; making new technology work for a region; building capacity to sustain economic growth; regional tourism; championing regional resilience; infrastructure; Indigenous development; environmental management; integration of Government and partnerships and priorities in the regional research agenda.

**Contact:** Belinda Healey

**Tel:** (07) 3210 0021

**Web:** <www.segra.com.au>

## November

### Ecotourism Leading Innovation, Driving Sustainability Conference 8–13 November, Leura, Blue Mountains

**Venue:** Peppers Fairmont Resort, Leura

**Postal:** GPO Box 268, Brisbane, QLD. 4001

**Tel:** (07) 3229 5550 **Fax:** (07) 3229 5255

**Email:** <info@ecotourism.org.au>

**Web:** <www.ecotourism.org.au/conference/index.asp>

## OUR STAKEHOLDERS



ABORIGINAL COMMUNITIES



PASTORALISM



TOURISM



CONSERVATION



DEFENCE



MINING

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