

# TEMs Links



SEPTEMBER 2003 VOLUME 4 ISSUE 2

## CC's Corner

Dear All,

I hope semester 2 2003 is going well for you and that your studies are rewarding.



This year was my first trip as SBI501 unit coordinator to the VRD. Lynda Prior (TS CRC), Penny Wurm (TS CRC) and I accompanied 10 students, who were all interesting and stimulating company – including a Danish exchange student, two mines auditors, a rangeland GIS worker, two students with experience in the tourism industry, a NT park ranger, a laboratory biologist and a riparian ecologist. We had a fascinating time, travelling through the landscape and speaking with people working and living there. This year our trip coincided with the Mt Sanford open day, so after a night at Timber Creek then Kidman Springs, we headed south to Mt Sanford station to hear about various pasture management experiments, new technology such as remotely sensed bore monitoring, then travelled to then Pigeon Hole to investigate the grazing intensification trials planned there. The VRD landscape is truly beautiful, and the trip was a wonderful opportunity to hear from people working in the northern rangelands.

The new Graduate Certificate in TEM has hit the spot, with our first graduate taking part in the October 2003 ceremony. In fact we have a terrific group of 10 graduates attending the ceremony this year – will provide photos and a full report in the next edition of TEMs Links.

Thanks to those students who contributed to this newsletter—I will be delivering on my promise of a chocolate bar to all three. This offer stands for the next edition too—send your contributions to Lynda (contact details at bottom right of this page).

Regards,  
Lindsay Hutley

*Course co-ordinator  
leading the way at  
Kidman Springs,  
SBI501 field trip  
2003*



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### TEMs LINKS

- *Aims to keep students of the Graduate Diploma and Masters of Tropical Environmental Management in touch with each other and with staff in the course*
- *Contributions from students and others are always welcome, and should be sent to*

TEMs Links

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## STUDENT PROFILES

The TEM program is taking on a truly international flavour - we currently have students from East Timor, Japan, the Philippines, Mozambique, UK, USA, Canada and Denmark enrolled, as well as, of course, our Australian students. (I'm sorry if I overlooked any country there). An especially big welcome to our new international students - it adds a lot to everyone's experience to be studying with others from such a wide range of backgrounds and places. In this issue, we have contributions from:

- Carlos Ximenes (East Timor)
- Amaral Chibeba (Mozambique)
- Natalie Madden (Australia)



### Carlos Ximenes writes:

I am from East Timor. I am currently doing my Course in Master of Tropical Environmental Management. This is my second semester, and I am hoping to finish it soon and back to East Timor. It has been a long time imagining how important the environmental aspect is in this modern and globalized world. That was my objective since I graduated from the Faculty of Fisheries in 1995 (Indonesia) to focus more on environmental issues (Coastal environment).

I am enjoying life in Darwin, particularly at the NTU. The climate is similar to that of my country, although a bit higher humidity at the Top End, however it never challenged me in doing my daily activities (Study, etc). My favourite place in the Northern Territory is Kakadu National Park with its rocky artsites and beautiful water billabongs. I have been there during the first semester for a Fieldtrip (Tropical Environments Unit).

I am under the Eduka-Scholarship contract, and I will be going back to my country as soon as I finish my course at the NTU. I am optimistic about facing challenges when I get back, particularly in the environmental issues. However, that is my duty and my colleagues in contributing for this newest nation.

### Amaral Chibeba:

I am an MTEM student from Mozambique. I started considering

doing a postgraduate course soon after finishing my BSc (Honours) in Agronomy. However, the decision to come to Australia was a difficult one because apart from a number of threatening health tests including HIV that I had to undertake it meant to lose my job. I took the risk and I successfully applied for an AusAID scholarship.

I have decided to do a course somewhat related to my BSc degree in a city whose climate I am accustomed with. MTEM is closely related to my BSc course so I can apply the knowledge acquired in both in my professional life. Darwin is just slightly warmer than Quelimane, the city I was living in Mozambique, thus I am climatically at home.

I have had a magnificent time in the Top End. My greatest experience was a study tour with colleagues in Victoria River District last year when I was doing SBI501. On field learning with experienced professionals, seeing wildlife in pleasant landscapes, and camping was an unforgettable experience.

Additionally, I have found many friendly people in Darwin and have made new friends not only from Australia but also from overseas. Being a small city Darwin offers a great opportunity for people to meet more often and to make friends easily.

I am looking forward to going home to meet my family and friends, and to contribute with my knowledge on the development of my country.

## Graduate Updates

### Sally Weekes writes:

I'm back in Sydney at the moment and doing a fair bit of voluntary work for the NPWS wildlife officer, Geoff Ross and he's been really helpful and trying to extra funding for various projects so he can pay me. He's got enough to pay me part time for six months starting in May on double banded plovers in Botany Bay, at least its something and I'm applying for other jobs with NP that are more permanent. My plan is to work this year and earn a bit of money and get experience (at something) then try and get to Antarctica / sub-antarctic islands, possibly do a PhD on something down there like albatross.

## STUDENT PROFILES (continued)

### Natalie Madden

Hello MTEMs students. I've enjoyed reading about the scope of experiences and personalities of people doing the same course as me so I thought I'd contribute. Here goes..

I am a nearly 40 year old working wife and mother with 20 years experience in environmental science and occupational hygiene. Most of my working life has been spent in Northern and Central Queensland. I am currently employed as an environmental scientist at Connell Wagner which is an Australian owned consulting company. I was interested to learn that we have offices in Darwin, several in Indonesia, and 3 in North Western Australia as well as the major Cities of Australia and a few in Europe. The environment group in CQ spends most of its time providing advice to several large industries (salt, cement, alumina, oil shale, Port Authority etc) on ecological monitoring, contaminated site assessments and dust and water quality monitoring. You can say it's corny, but I still like to think I am helping to maintain our Australian landscape.

#### Why did I choose MTEM?

Having completed the course (all but my research project), I've been asked this question so many times, especially given the expense of airfares each year which were sometimes as high as \$1500. I figure there were two major reasons - (1) no cane toads and (2) the visual landscape. I was not disappointed.

If you get a chance, you must study contested knowledges and Yolngu culture. These were the surprise packages for me in this course and there is so much ecology in Aboriginal culture and such an immense recognition of the ecological processes inside the heads of our old people that it is a crime to downplay or overlook it. I visited my brother in Japan mid-way through the course and was often referred to as "arrogant round eye" and really had that same feeling during the Aboriginal subjects.

Anyway, my decision to study externally through NTU had nothing to do with course content or the impressive qualifications of the research institution or staff. Of course I've come to appreciate all of the above and to arrive back in the world of Elliot traps full of bloated cane toads and bird surveys dominated by crows and lorikeets is a bit of a let down. I have gained a couple of learned friends during the

past three years and many others have moved from CQ to Darwin. I call Darwin "the place of many ecologists" which I think is very fitting for a city named after the original!

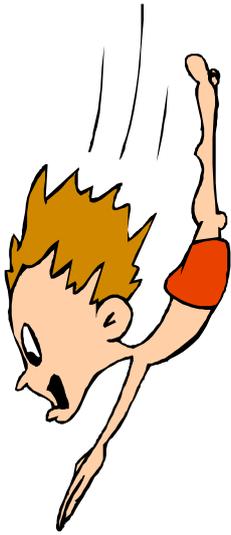
My research project is entitled (so far) "Do EISs work?" and I am excited and a little nervous about my first attempt at true research. Believe me, research is a completely different world and entirely different language away from my life of budgets and timelines and anxious clients.

In closing, I'd just like to say that years ago I was really inspired by Katherine Hepburn's biography. She questioned how kids growing up in concrete jungles, having never seen a tree grow, could ever hope to be taught about the natural world. I truly believe that when we agree to learn about the Australian natural/cultural landscape, we inherently gain a responsibility to work towards its protection, and also to pass on those knowledges and experiences. So those who still have native flora and fauna to protect have the weight of the world on their shoulders to enjoy and value what is there. I hope to bring my children and their children to Darwin to see how our Country could have looked, had we taken more care.

Off the soap box now and sending my kindest regards to everyone studying. For those, like me who will be finished in a few months, I may see you at Graduation.

*Photo of myself and youngest daughter recently at my favourite place on the planet - Lake McKenzie, Fraser Island, Queensland.*





## Should you take the plunge and do a PhD?

Have you ever contemplated doing a PhD? Are you still contemplating doing one? Did your MTEM project inspire you to want a research career? Well, read on. And even if you aren't considering one, why don't you have a look at the Tropical Savannas CRC web-site to read about its research students and their projects:

[http://www.savanna.ntu.edu.au/education/phd\\_projects.html](http://www.savanna.ntu.edu.au/education/phd_projects.html)

Completing an MTEM with excellent grades throughout provides one possible pathway into a PhD. However, you need to think carefully about why you want to do a PhD, and be realistic about employment prospects after completing one - the number of PhD graduates has increased greatly over the last 10 years, but the number of research jobs has stayed fairly stable. Thus having a PhD does open up job possibilities, but getting these jobs is more difficult than in the past. However, if you

are truly committed to a research or academic career, and are prepared to make the considerable sacrifices involved, getting a PhD may lead to job fulfilment that you could not find in any other way.

If you decide to try for a PhD scholarship, universities generally advertise these over the next few months. University scholarship applications typically close at the end of October, and you will need to have lined up a supervisor and come up with a preliminary research proposal before then. The Tropical Savannas CRC offers PhD scholarships, but usually these come in the form of top-ups to a university scholarship and operating money - you must also apply for a scholarship at a partner university. Contact Penny Wurm ([penny.wurm@ntu.edu.au](mailto:penny.wurm@ntu.edu.au)) for details about this process, and projects that may be funded by the CRC. Keep your eyes open also for the 'industry' funded scholarships that may be advertised at any time - these will involve working on a specified project, and often attract a premium stipend. (In this context, 'industry' includes state and territory environmental management organisations). Getting a PhD scholarship is very competitive, but personally I would never advise anyone to embark on a PhD without one.

**Kristin Metcalf**, an MTEM graduate who went on to enrol in a PhD offers her thoughts

### Why MTEM?

When I began the MTEM program in 1997, I had been working as an environmental consultant in the NT for about 7 years. The MTEM coursework masters was an excellent opportunity to upgrade my qualifications and scientific knowledge while also being a great vehicle to undertake a 2 year research project on a topic (productivity of mangroves in Darwin Harbour) that I had been contemplating for years. The coursework aspect was empowering – strengthening understanding in the areas of experimental design and analysis, GIS, current management issues and the scientific literature. The ability to individually tailor one's MTEM course to suit particular areas of interest also means that the professional benefits can be immediate and tangible.

### Why then to a PhD?

The whole MTEM experience was so positive, it was a major part of the inspiration to go on and do further research. It confirmed that it's not difficult to design

and implement a valuable scientific study that can provide much-needed data for natural resource management. A major reason for continuing on with a PhD was that the results of my Masters research project indicated that further studies were needed in that area. For instance, although mangroves are often cited as being highly productive ecosystems and important centres of biodiversity, there was no comprehensive baseline data in support of this.

Further, after working in both the public and private sectors, the opportunity to return to University to follow through an interesting research project of your own is exciting and a privilege. There is rarely, if ever, sufficient time or the budget to do long term scientific research outside of university. Nevertheless, receiving a scholarship was pivotal in my decision to continue studying – you still have to pay the mortgage.

*(continued p5)*

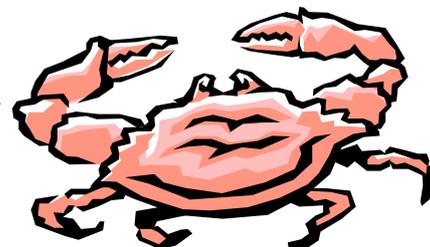


**Kristin Metcalf** (*cont.*)

If you are considering a PhD in science, determination to see a research project through to completion and the ambition to do things well helps to overcome each stepping stone in the PhD process...eg. long, hard days in the field, the patience to sort through zillions of pickled invertebrates, the first big seminar, writing up. Trying to unravel the mysteries of the natural environment can be inspirational. However, the self-discipline required to bring it all together and write the thesis is the big test – even if you didn't consider yourself the type to procrastinate to start with! Like most things in life though, it helps to have a sense of humour (and to be a teensy bit crazy?).

Selecting a topic that you are quite passionate about (eg biodiversity conservation) is important and the potential for the research outcomes to

have not only academic, but practical benefits, can provide further drive. For example, the sampling methodology I trialed during PhD fieldwork has recently been applied in scientific monitoring associated with developments in mangrove areas of Darwin Harbour. Of course there are the career benefits, especially if you have a penchant for research, want to teach at tertiary level or can envisage the research having valuable spin-offs for your work.



## PHD SCHOLARSHIPS IN TROPICAL SAVANNAS MANAGEMENT

WORK WITH SOME OF NORTH AUSTRALIA'S LEADING RESEARCHERS

Scholarships and Project Support at University of Queensland, Northern Territory University or James Cook University.

The Tropical Savannas CRC offers a unique opportunity to participate in the cutting-edge research, education and communication that will help guide northern Australia to a more sustainable future.

We are seeking motivated, well-qualified graduates to carry out research projects in partnership with industry, Aboriginal organisations and/or government, leading to a PhD or Masters research degree at one of the three participating universities.

Project opportunities are available in a range of fields, including the following areas:

- Communication, knowledge building and adult learning in savanna management
- Ecology of savanna ecosystems, including riparian systems
- Modelling of savanna bio-physical and socio-economic processes
- Management of grazing lands
- Fire management
- Indigenous knowledge conservation, ethno-ecology and cross-cultural solutions to natural resource management.
- Biodiversity conservation
- Regional planning and community engagement in savanna management

Multi-disciplinary projects are strongly encouraged.

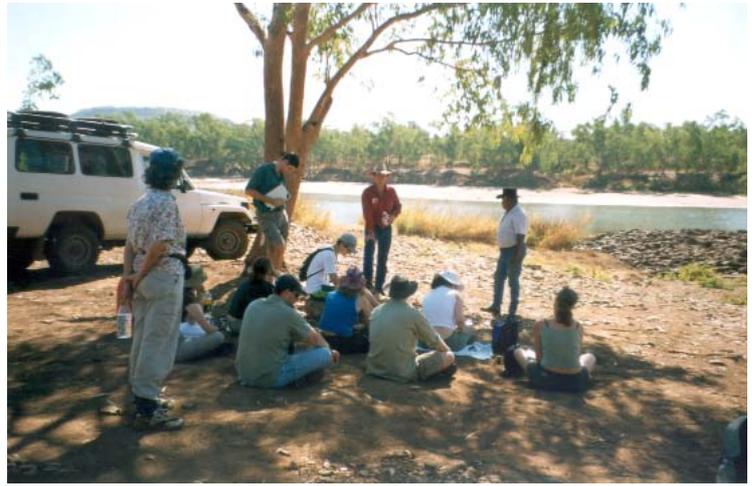
As a successful applicant you will be supervised by University staff in collaboration with researchers and practitioners drawn from industry, government, Aboriginal organisations or other CRC partners. You must be an Australian citizen or permanent resident, and meet the entry requirements for PhD or Masters by research of the participating university. In addition to an APA(Industry) equivalent, tax-free stipend of \$23294 pa for up to 3 years, you will receive significant operational support for your project, and will be part of a supportive, highly-regarded research team spanning two states and the NT.

**Closing Date: 31 Oct 2003**



*Above: Neil MacDonald (NT DBIRD) explaining dry and wet season supplements for cattle*

*Below: Neil MacDonald (NT DBIRD) and Lindsay Hutley (CDU) swapping foody tips at Pigeon Hole*



*Above: Larry Johns (NT DBIRD) and Mick Armstrong (NLC) discuss weed management issues and enterprise development on Aboriginal lands in the Timber Creek area.*

## SBI501 FIELD TRIP TO THE VRD

Nine SBI501 students, accompanied by course co-ordinator Lindsay Hutley, and CRC Education Project Team Penny Wurm and Lynda Prior, and Tropical Savannas CRC PhD student Nicole Cranston, experienced the northern rangelands at first hand on a six day field trip to the Victoria River District. The field trip is a wonderful introduction to the issues involved in managing these rangelands from a number of perspectives—nature conservation and tourism, indigenous land management, and the pastoral, agricultural and horticultural industries. It also provides a great opportunity for students to get to know each other

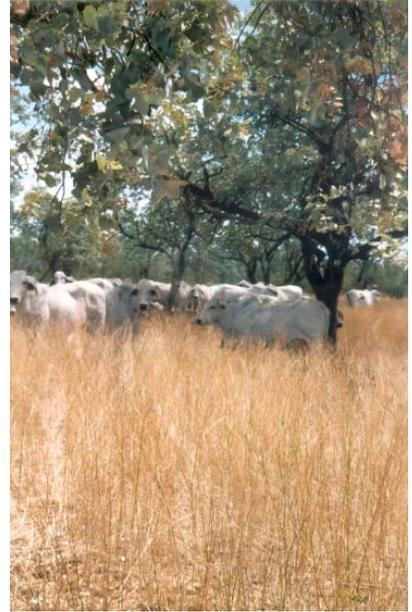
*Below: Neil MacDonald (NT DBIRD) and Lindsay Hutley (CDU) discuss carbon cycling in the fire trials at Kidman Springs, watched by Jill Aisthorpe (QDPI) and SBI501 students.*





*Above: Irrigated agricultural developments in northern Australia will expand during the next decade. Chris Wicks (NT DBIRD ) explains how irrigated agriculture and horticulture are practiced in the Katherine region and some of the issues involved to attentive students.*

*Below: Cross-cultural exchange is an important feature of the field trip—some of the friendly locals checking us out at Kidman Springs*



and staff involved in teaching the unit in a relaxed and informal setting. Building such networks at the start of the unit makes it easier for students to contribute to on-line discussion groups and to contact staff and each other for advice. That postgraduate education is very much a two-way process was demonstrated by the knowledge and experience of many of the participating students.

Penny, Lindsay and Lynda would like to thank all the students who took part for being so ready to help when it was needed, co-operating with an often tight schedule and being such good company.



*After lunch at Pigeon Hole.*

*Above, front row from left: Nicole Cranston, Gary Taylor, Marianne (Muzza) Damholdt , Mandy Trueman, Penny Wurm; middle row: Keith Tayler, Justin Perry, James van der Helm, Nathalie Laurence, Kelly Menadue; back row: Lindsay Hutley and Lynda Prior.*



*Left, front row: Gary Taylor, Mandy Trueman, Nicole Cranston and Keith Tayler; middle row: Justin Perry, James van der Helm, Nathalie Laurence, Kelly Menadue, with Leeanne Goody and Steve Petty (both Heytesbury Beef); back row: Penny Wurm and Lindsay Hutley.*

## Professional Doctorate in Tropical Environmental Management (DTEM)

Want to broaden your professional experience, update your skills and gain a deeper understanding of research without doing a PhD? Then a professional doctorate may be what you're wanting!

Penny Wurm and Lynda Prior are working in conjunction with the Tropical Savannas CRC three partner universities—Charles Darwin University (formerly NTU), James Cook University and University of Queensland—to develop a new TEM course, the professional Doctorate in Tropical Environmental Management.

### *What is a Professional Doctorate?*

A professional doctorate is of an equivalent standard to a PhD, but is aimed at mid-career professionals seeking more relevant to their careers than an academic apprenticeship in research. As well as traditional academic entry requirements, most courses demand a minimum level of appropriate professional experience. Professional doctorates offer greater flexibility than pure research programs, and consist of both coursework and research, with professional placement outside of the normal workplace also commonly a component. Students generally undertake the program part-time while continuing to work professionally.

Professional doctorates are now offered in over 130 programs in 35 universities in Australia - commonly in education, health sciences (including psychology), business and law. In these disciplines they are part of the career structure, leading to promotion (e.g. education) or clinical practice (psychology). It is only in the last 10 years that they have been offered in science, generally in fields such as technology (e.g. UTS) and biotechnology (e.g. UQ). The Horticultural Science & Plant Biotechnology Group at UNE has recently offered a Professional Doctorate, in which candidates are encouraged to include graduate-level units from areas such as Marketing and Management, Educational Administration and Agricultural and Resource Economics.

### *What will the DTEM involve?*

The DTEM will provide new opportunities for professionals to combine expertise in natural resource management with qualifications in additional related areas such as project management, education, communication, research application, Indigenous management of natural resources or regional planning.

Details are still being worked out, but the proposed DTEM will articulate with the existing TEM program, although

some conditions are likely, given the importance of maintaining the doctoral standard. The DTEM program will share course-work components with the MTEM program (all core units are also core units in the MTEM) but will be distinguished from it by (a) the scope and standard of the research undertaken (and its administration and examination), (b) the entry requirements and therefore the capacity of the candidate to contribute to their profession, (c) total amount of coursework undertaken, and (d) the professional placement option.

The **Professional Placement** option is a feature of the DTEM. This option will draw upon the TS-CRC network of partner agencies to provide professional placements for DTEM candidates. Senior staff will serve as Placement Supervisors and Placement Mentors for candidates working on a project within the host agency. These projects will not be conventional research projects, but professional practice activities associated with, for example, a review or evaluation of an agency activity. It is expected that students will undertake placement outside their normal place of work..

The DTEM program will be fee-paying, and we hope to offer it in Semester 2 2004 or Semester 1 2005. Contact Penny Wurm for details.

### **Interested in Gaining First Hand Experience of Research?**

The Faculty of Education, Health and Science at CDU has launched a website to advertise projects that require the assistance of volunteers, particularly for science fieldwork.:  
<http://www.ntu.edu.au/faculties/site/research/pgresearch/volunteer.htm>

You can use this site to select interesting projects to participate in, or conversely, you may add your own project to the list to attract volunteers to help you. Examples of projects currently listed are:

- Impacts of invasive grasses on ecosystem processes in Australia's savannas
- The fate of heavy metals from Rum Jungle Uranium mine into the Finnis River system
- Seasonal energetics of some species of frogs in the wet-dry tropics
- How is country changing? Investigating rainforest dynamics in Kakadu National Park.

Another useful resource, that contains heaps of information on doing research in the field in northern Australia, is the Faculty of EHS **Field Manual**:  
<http://www.ntu.edu.au/faculties/site/divisions/techserv/field.html#15.1>





## DALY RIVER REPORT OUT

*Tree clearing for agricultural development on the Daly River is currently very topical, as TEM students on the recent VRD field trip have discovered. You can read about this issue in an umbrella report that contains condensed versions of several reports examining various aspects of the Daly River development. The umbrella report, 'Recommended environmental water requirements for the Daly River, Northern Territory, based on ecological, hydrological and biological principles' (Erskine et al. 2003) can be found at: <http://ea.gov.au/ssd/publications/ssr/pubs/ssr175-daly-river-env-flows.pdf> .*

*One of the component reports 'Tree Water Use and Sources of Transpired Water in Riparian Vegetation along the Daly River, Northern Territory' by A. O'Grady, D Eamus, P Cook, S Lamontagne, G. Kelley & L Hutley (2002) has just become available (at least, Lindsay has just received a copy—he may let you read it if you ask him nicely!). This reports the results of a two year project commissioned by Environment Australia to examine groundwater dependence and environmental flow requirements of the Daly River.*

- **Key findings of the Report:**
- Trees along the river appeared to obtain their water from groundwater or river water, while those further from the river and along the levee banks probably obtained theirs from soil water.
- Riparian vegetation along the Daly River contained high species diversity, and was structurally and spatially heterogeneous.
- Water use by the dominant evergreens was largely aseasonal, and estimated to be around 3.2 mm per day.
- Deciduous species were an important component of the monsoon forest at the confluence of the Douglas and Daly Rivers, and stand water use at this site was highly seasonal, increasing from 2.4 mm per day in August to over 4 mm per day in December.
- There was strong evidence that riparian vegetation along the Daly River is groundwater-dependent. The study was conducted during a period of above average wet seasons, and there was generally sufficient water stored within the soil profile to maintain transpiration throughout the dry season. During periods of below average rainfall, however, vegetation may become increasingly dependent on groundwater sources.



## DRAFT DARWIN HARBOUR REGIONAL PLAN OF MANAGEMENT

The Darwin Harbour Regional Plan of Management aims to maintain the harbour's value as a recreational, cultural, commercial and scenic resource, and attempts to strike a balance between development and protection of the harbour. The first round of community consultation comprised several events informing the public of the proposed framework, and to highlight the importance of the harbour and catchment.

The second round of consultation is now under way. The Darwin Harbour Advisory Committee is calling for comments on the Draft Plan, which can be found at: <http://www.ipe.nt.gov.au>

Public submissions on the Draft Darwin Harbour Regional Plan of Management will be accepted up to 30 September 2003. The Committee will compile submissions and make further amendments to the plan.

## Exciting new North Australian Publications!

### Journey to Country of the Heart



*You know what to do and where to go."*

*- MakMak people*

*"My strength.  
The strength of that land.  
You can feel it in yourself,  
you belong there.  
It's your country, your dust, your  
place.  
You remember the old people.  
The white eagles always greet me."  
It's home.  
Safety and security.  
You see the birds, you see the country,  
and your senses come back to you.*

The clan of the white-breasted sea-eagle, or MakMak people's (the White Eagle people) homeland lies largely within the Wagait floodplains, about 100km south-west of Darwin. *Country of the Heart* takes you on a journey to this homeland where you will meet five extraordinary MakMak women: Nancy Daiyi, Kathy Deveraux, Margaret Daiyi, April Bright and Linda Ford. Their voices, stories and knowledge of their country are vividly captured through anthropologist Deborah Bird Rose's writing and Sharon D'Amico's photography.

Deborah, in collaboration with other people, has chosen an innovative way of communicating using text and a photo essay to portray "a living system that keeps circling back on itself" as well as show the abundance and quality of life in an Indigenous homeland.

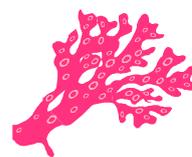
ISBN: 0 85575 396 XRRP: \$45.95 204 pages

### From catchment to corals

The Australian Institute of Marine Science (AIMS) and CRC Reef have released a new publication describing the state of the Great Barrier Reef catchment and the impact of sediment and nutrient runoff on coastal reef ecosystems. The 334 page book, compiled by AIMS principal research scientist Dr Miles Furnas, describes the geographic and oceanographic features of the Great Barrier Reef (GBR), the catchments and hydrology of rivers draining to the adjacent coast, vegetation communities and agricultural practices affecting runoff, suspended sediments and nutrients in rivers, river plumes after floods, and the effects of sediment and nutrients on reef ecosystems.

The author estimates current sediment runoff to the GBR region, based on multi-year sampling in 'wet' and 'dry' catchment rivers, and modelling of catchment-scale sediment fluxes, is now close to 14 million tonnes per year. Concurrent nitrogen and phosphorus exports are estimated to be 43,000 tonnes per year, and 7,000 tonnes per year respectively. Most of the sediment is initially deposited close to major river mouths, but over time, finer particles are resuspended and carried along the coast to sheltered sites and north facing bays. The source, composition and influence of sediment on water quality are described in detail with many colour graphs and pictures.

Catchments and Corals is available for AU\$80.00 (inc GST) plus \$10.00 postage in Australia (AU\$90.00 plus \$25 postage overseas) It can be ordered by mail, contact: [w.ellery@aims.gov.au](mailto:w.ellery@aims.gov.au) <<mailto:w.ellery@aims.gov.au>> or online at: <<http://www.aims.gov.au/catchments>>

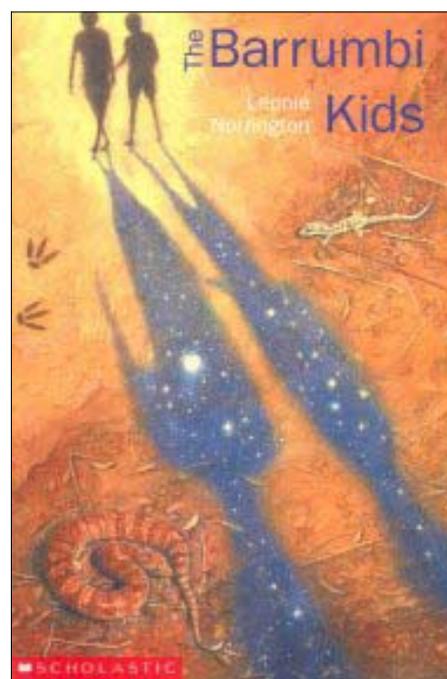


*The following two books may be of more interest to future than to current TEM students, but their mums and dads may also be interested!*

**Walking the Seasons in Kakadu** written by Diane Lucas and illustrated by Ken Searle

The Gundjeihmi people of Kakadu recognize six seasons in the year of their majestic, awe-inspiring land. This fascinating picture/information book presents each of those seasons in turn – the storms and floods, the heat and fires, the plants and animals, and the life of the people who have lived with them for thousands of years. The book is suitable for ages 7-12 and sells for \$29.95. It is published by Allen & Unwin.

**The Barrumbi Kids** by Leonie Norrington tells of the adventures of two friends Dale and Tomias in their last year at primary school. This novel is suitable for upper primary students and it is a realistic fiction which examines the relationships between two different cultures. An entertaining story with lots of funny moments involving the adventures of the children. An example of such a moment is when Dale borrows his Dad's prized lure to go fishing and it becomes stuck in a tree. An easy to read and enjoyable book to read. ISBN: 1-86291-496-6; 197p pbk, \$16.95



# Funky New Websites

## Ord map identifies values

A MAP identifying values, uses and Aboriginal cultural importance of the lower Ord River area is now available. It shows fishing, pastoralism, irrigation, boating, camping and tourism. Traditional owners and the Mirima Language Centre have enabled the Miriwung place names of many features along the lower Ord to be included on the map. The 'Lower Ord Waterway Values Map' was developed by the WA Department of Environment and the Mirima Dawang Woorlab-gerring Language and Culture Centre, in consultation with several interest groups, stakeholders and government agencies. It is the first time this information has been collated and presented to the general public. A signage project and an information shelter are already being planned as the next project to follow on from the map. (From *The Kimberley Echo*, July 2, 2003)

Contact: Jane Rapkins, Kimberley Rivercare Officer

Tel: (08) 9168 1082 Keeley Palmer, Mirima Dawang Woorlab-gerring

Language and Culture Centre Tel: (08) 9169 1029



## Mapping Australia's water

Drought, flood, water restrictions, water recycling, water prices... how do these terms fit into the bigger picture of water resources and use in Australia? How much water do we actually have? And how much of that do we use? The answers to these and many more questions are found on The Australian Water Map. It is available to view and purchase at:

[www.earthsystems.com.au/map](http://www.earthsystems.com.au/map) <<http://www.earthsystems.com.au/map>>

For more information call Catherine Oke, Earth Systems 03 9205 9515 or email [map@earthsystems.com.au](mailto:map@earthsystems.com.au) <<mailto:map@earthsystems.com.au>>

## International Year of Freshwater 2003

The International Year of Freshwater website is a seemingly endless online resource offering a range of perspectives on water issues throughout the world. The site features a Water library and a section called Water talks which is the mouthpiece for people's proverbs, views, opinions and perspectives of water from around the world. Visit: <<http://www.wateryear2003.org/>>

## GIS-speak now in plain English

Ever heard a Geographic Information System (GIS) word that you had no idea what it meant? Now, a GIS dictionary is available online to service your needs. The online GIS Dictionary website, maintained by the Association for Geographic Information and the University of Edinburgh Department of Geography, contains definitions for nearly a thousand terms related to GIS. Visit: <<http://www.geo.ed.ac.uk/agidict/welcome.html>>

## Coastal land use maps completed

Land use maps have been completed for 28 coastal catchments from the New South Wales border to Townsville in north Queensland, including the major catchments of the Brisbane, Mary and Burnett Rivers. The Queensland Land Use Mapping Project (QLUMP) team worked for about 18 months to complete the project. The project involved five staff in Brisbane and two in Rockhampton. Excellent support and expert knowledge were provided by a large number of regional Natural Resources & Mines and Department of Primary Industries staff, local councils, catchment groups and landholders. Statistical validation has shown an average attribute accuracy of 89.25% for the 28 catchments. The Natural Heritage Trust and National Action Plan provided funding for the catchment maps. For further info on QLUMP visit: <<http://www.nrm.qld.gov.au/science/lump/>> or phone Christian Witte, 07 3896 9832.

And a couple of web-sites especially interesting for students doing **Flora and Fauna Survey Techniques**:

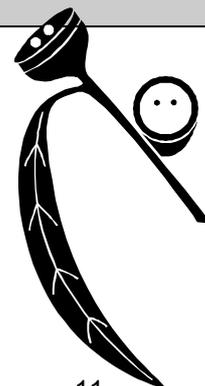
*Thanks to 'Topical Savannas' for the above websites and book info —why not subscribe? This is a free electronic publication with lots of interesting news items, web-sites, conference announcements etc. that relate to savannas . You can subscribe by sending an email to Julie Crough ([julie.crough@cdu.edu.au](mailto:julie.crough@cdu.edu.au)) or Peter Jacklyn ([peter.jacklyn@cdu.edu.au](mailto:peter.jacklyn@cdu.edu.au)).*

If you wonder whether a particular plant species occurs in the NT, or what it's current official name is, go to the **NT Herbarium** checklist at:

[http://www.nt.gov.au/ipe/pwcent/docs/NTChecklist\\_Jan\\_03.pdf](http://www.nt.gov.au/ipe/pwcent/docs/NTChecklist_Jan_03.pdf)

And what do some of these **botanical names** mean, anyway? Find out from:

<http://www.winternet.com/~chuckg/dictionary.html>



# TEMS Links

## Tropical Environmental Management Students' Newsletter

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### CONFERENCES!!

#### **Ecological Society of Australia - Ecology 2003 8 - 10 December 2003, Armidale, NSW**

ESA 2003 will be held at the University of New England. The organisers have made the first announcement and call for symposium proposals. The final list of symposia will be selected on the basis of content balance, ecological interest, and relevance to the meeting. Symposia from a wide range of perspectives are encouraged.

Contact: Conference Secretariat  
UNE Conference Company,  
University of New England, Armidale  
NSW 2351

#### **3rd International Wildlife Management Congress 1-5 December, Christchurch, New Zealand**

The congress will have a strong Pacific and southern hemisphere flavour with the main focus on contrasting wildlife management perspectives.

Contact: Wildlife Congress Secretariat, Centre for Continuing Education  
University of Canterbury, Private Bag 4800, Christchurch, New Zealand  
Email: [wildlife@cont.canterbury.ac.nz](mailto:wildlife@cont.canterbury.ac.nz)  
Web:  
[www.conference.canterbury.ac.nz/wildlife2003/wildlife.html#invitation](http://www.conference.canterbury.ac.nz/wildlife2003/wildlife.html#invitation)

#### **Ecology Journal Club for Postgrad Students & Staff**

An ecology "Journal Club" has started at the Key Centre for Tropical Wildlife Management (KCTWM, housed in B18), and we would also like to invite staff and postgrads of B42 to participate, if, as and when you wish.

Each week (Wednesdays at 3pm, running for between 30 min to 1 hour), a volunteer will select a scientific paper of interest to them for discussion by the group:

People will nominate what date they would like to host a paper on a timetable on the door of the KCTWM Library (18.2.75)

If you would like to participate in the Journal club, email Barry Brook ([barry.brook@cdu.edu.au](mailto:barry.brook@cdu.edu.au)) and he will add them to Journal Club mailing list.

#### **Job Vacancies**

"NRMjobs" is a weekly email advertising opportunities in the environment, water and natural resource management field in Australia and New Zealand. Visit:

<http://www.nrmjobs.com.au/>