

Staff news

Congratulations to **Assoc. Prof. Lindsay Hutley**, **Assoc. Prof. Sam Setterfield** and **Assoc. Prof. Michael Douglas**, who won the 2009 Vice-Chancellor's Awards for Exceptional Performance in Research CDU – Team Award.

Assoc. Prof. Lindsay Hutley and **Assoc. Prof. Sam Setterfield** were awarded two ARC Linkage grants: *Impacts of deforestation and afforestation on greenhouse gas emissions, and carbon and water resources in the Daly River catchment, north Australia*; and *Assessing the impact of exotic grass invasion on carbon dynamics in an Australian tropical savanna*.

Dr Hylton Adie from the University of KwaZulu-Natal has been working with Assoc. Prof. Michael Lawes as a visiting scholar.

Prof. Stephen Garnett, **Dr Heather Aslin** and **Dr Aggie Wegner** submitted an ARC Linkage proposal to investigate cross-cultural issues relating to visitor use of Indigenous Protected Areas, in partnership with Dhimurru Aboriginal Corporation.

Hannah Brodie-Hall commenced with TRaCK in May as Northern Territory Communications and Engagement Officer.

Assoc. Prof. Michael Douglas, **Dr Danielle Warfe**, **Dr Erica Garcia**, and **Hannah Brodie-Hall** attended the TRaCK consortium meeting in Brisbane.

Volunteers **Nicola Golding** and **Claire Haysom** have been assisting **Assoc. Prof. Michael Lawes** with field and laboratory work.

Jesse Northfield commenced with SER in April as Communications Officer.

Postgraduate student news

Frances Avery received an Australian Federation of University Women Post-Graduate Scholarship, worth \$1,000.

Nick Hogarth moved to Indonesia to take up a six-month Endeavour Research Fellowship at the Center for International Forestry Research, as part of the global Poverty Environment Network Project.

Ria Fitriana presented a seminar at Charles Darwin University: *Community participation in marine protected area establishment in Indonesia: lessons for future initiatives*.

Pham Thu Thuy completed her field work for her thesis on *Pro-poor payment for environmental services in Vietnam*.

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A whale shark of a time



Dr Natasha Stacey presenting at the World Oceans Conference 2009.
Credit: IISD/Markus Staas

Understanding local knowledge, and combining it with scientific knowledge, could help conservation efforts for one of the world's largest fish, the whale shark, and provide local communities in eastern Indonesia with economic benefits.

Dr Natasha Stacey, SER Senior Research Fellow, and Sam Pickering, SER Research Associate, travelled to the World Oceans Conference (WOC)—held in Manado, North Sulawesi, Indonesia—in May, presenting findings from a research project designed to improve our knowledge about the whale shark; its migratory patterns in eastern Indonesia; and the potential to develop whale shark monitoring and conservation opportunities for Indonesian fishers.

The World Oceans Conference provided a forum for the world community to discuss issues from marine tourism to livelihoods and climate change.

Little is known about the whale shark's migration and aggregation patterns, population dynamics, and threats. Dr Stacey's project, in collaboration with the Australian Institute of Marine Science, involved research with fishers in Timor and Rote Island, investigating local knowledge of the whale shark's migration patterns, and complementing previous scientific tracking of whale sharks.

'We established a pilot project to work with Bajo communities in Kupang Bay and Papela, Rote Island. Bajo fishermen have a cosmological affinity with whale sharks that prevents them from hunting the species, however, one particular group of fishermen in adjacent islands do not hold such beliefs and actively fish them,' Dr Stacey said.

'Given there is not much of a commercial industry based on whale sharks (due to low fin prices), however, I believe that this research has the potential to grow into a monitoring program or a whale shark sea-ranger group that could supplement the livelihoods of locals through alternatives to fishing, as well as collaboratively manage whale sharks that do not recognise international borders,' she said.



View of Manado, Indonesia, venue of the World Oceans Conference 2009.
Credit: IISD/Markus Staas

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Newsletter compiled by Jesse Northfield with contributions from Heather Aslin, Hannah Brodie-Hall, Stephen Garnett, Arturo Izurieta and Caroline Lehmann.

School for Environmental Research

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WHAT'S BEEN HAPPENING IN SER?

by Professor Stephen Garnett

Charles Darwin University has long had an ambition to work across the broader region. One of its strategies has been to forge partnerships with other universities in neighbouring countries. Among the strongest are those with the Malaysian Universities of Universiti Kebangsaan Malaysia in Kuala Lumpur and Universiti Malaysia Sarawak in Kuching. This issue describes the first meeting of what we hope will be many, and which we hope will result in research that is of value to all three institutions and both countries.

Similarly, the university has long had close ties with eastern Indonesia. So too does the marine life, with regular migrations between the two regions. The whale shark project here is one of several in which we work closely with people from Nusa Tenggara Timur, where we also have ties to the local Universiti Cendana.



In both regions there is great interest in the potential for payments for ecosystem services. Climate change brings opportunity as well as great peril. Understanding the carbon cycle, particularly how carbon is sequestered in soil, is a critical part of this, both here and abroad.

Prof. Stephen Garnett, Director of SER, presenting a gift to Assoc. Prof. Alek Tuen, Director of the Institute of Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak.
Credit: Anna Tuen

Appropriate management of the savannas could potentially store large amounts of carbon. However, payment to store carbon in this way will only be possible if the underlying science is thoroughly understood – all environmental enterprise is built on fundamental biological research.

Which is why, at SER, we try to span such a breadth of subjects, and work hard to integrate them. One can lose sight of the fact that a functioning environment is essential to all human endeavour. We try to use that knowledge to remind people of the links.



Aerial view of an early dry season fire in Kakadu National Park, NT.
Credit: Caroline Lehmann



Doing the RIMBA

South-East Asian nations lay claim to some of the world's truly great forests, prized for their abundance of flora and fauna, and treasured for their ability to contribute to the well-being of the people that live within them and use their resources daily.

Three universities have recognised that significance and joined forces—in an international collaboration—to examine the innovative management of these resources to enable sustainable livelihoods.

Research Innovation for the Malaysian Peninsula, Borneo and Australia, or RIMBA (also meaning 'forest' in Malay), was the name given to the series of projects between the Universiti Kebangsaan Malaysia of Kuala Lumpur (UKM), Universiti Malaysia Sarawak (UNIMAS), and Charles Darwin University (CDU).

In April 2009, SER representatives joined others from CDU and the Malaysian universities in Bali, a halfway point, to further to describe their capabilities and discuss how they could develop a project of benefit to all parties.

Professor Garnett, Director of SER, believes that the collaboration will allow the three universities to work closely in key areas, including: innovative natural resource management; the interaction between conservation and livelihoods; and tropical landscapes—hot and humid landscapes often rich in natural resources but poor in human and social capital.

'For some years, research leaders in all three universities have identified that their institutions share many areas of interest and have complementary skills. It is envisaged that, as the collaboration matures, a wide array of projects will be undertaken under RIMBA's umbrella,' he said.

'Those attending the Bali workshop identified one particular project that could engage and increase the capacity of all three institutions. *From theory to action: making conservation work for development* will explore the underlying importance of environmental services to the long-term well-being of society.

'Even if the short-term benefits are hard for people to appreciate, the diversity of life, clarity of rivers, freshness of air are not simply things of wonder, exhilarating beauty and peace of mind, but essential for the long-term well-being of those who use them—for health, wealth and the ongoing vitality of human society,' Professor Garnett said.



Representatives from UKM, UNIMAS and CDU at the RIMBA forum in Bali, April 2009. CDU representatives included Ms Gill Ainsworth (sixth from left), Prof. Bob Wasson (seventh), Dr Arturo Izurieta (ninth), Assoc. Prof. Dennis Shoosmith (tenth), Prof. Stephen Garnett (twelfth), and Prof. Ian Thynne (fifteenth).
Credit: Photographer unknown

The NT's secrets, buried below

Could the Northern Territory's national parks—known for their natural beauty—help reduce our carbon footprint and provide economic benefit to indigenous communities?

A team of CDU researchers, including SER Research Fellow, Dr Caroline Lehmann; Assoc. Prof. Lindsay Hutley and Research Associate, Dr Samantha Grover, School for Environmental and Life Sciences; and CSIRO Postdoctoral Fellow, Dr Anna Richards; are investigating the role of soil carbon storage related to fire, climate and vegetation.

Working across the World Heritage-listed Kakadu National Park and the Arnhem Land region, Dr Lehmann believes understanding soil carbon storage could have large, far-reaching impacts across the Top End.

'With up to 80% of carbon stored in the soil, it is vital to understand how carbon pools and turnover of carbon in soil functions in savanna systems,' she said.



Drs Caroline Lehmann and Anna Richards collecting soil samples in Arnhem Land, NT.
Credit: Jon Schatz

'Beyond simple academic interest, the project is of broad applied significance as the region is currently under a payment for environmental services agreement between indigenous land owners, the NT government and Conaco Phillips to manage fire for greenhouse gas abatement.

'The benefits to indigenous people, and of maintaining the capacity for management of remote lands, is significant for such vast tracts of the Australian continent and this project could contribute to this,' Dr Lehmann said.

Monitoring and evaluation of joint management update

The monitoring and evaluation of joint management project has been busy over the past few months, conducting a series of group interviews with Wardaman people and Flora River Nature Park participants, producing a draft assessment of results. Wardaman rangers also presented at the second joint management forum, held in Katherine in May.

Dr Arturo Izurieta and Dr Natasha Stacey delivered the monitoring and evaluation engagement workshop for the Northern Land Council, Northern Territory Parks and Wildlife Service, and Wulna people from Adelaide River Parks and Reserves.

Dr Izurieta also presented two papers on joint management and monitoring and evaluation at the Research Innovation for the Malaysian Peninsula, Borneo and Australia symposium, held in Bali, in April.

'Joint management was one the strongest themes with good opportunities to develop future projects with our Malaysian university partners, Universiti Kebangsaan Malaysia of Kuala Lumpur and Universiti Malaysia Sarawak,' Dr Izurieta said.



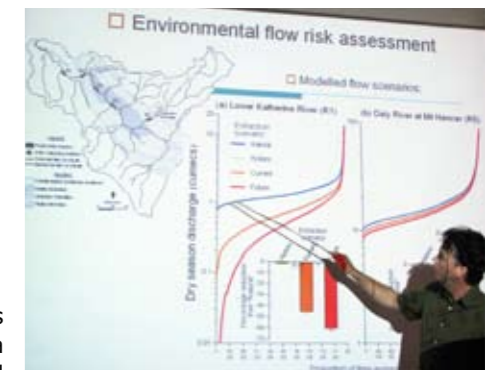
Adelaide River Parks participants (left to right: Dr Arturo Izurieta, Bill Panton, Anthea Burns, Dr Natasha Stacey, Prue Adamson, Robert Browne, Mark Anderson and Joe Browne), at the monitoring and evaluation engagement workshop, CDU, NT.
Credit: Photographer unknown

Fish and flows: findings from the Daly River

Charles Darwin University hosted a *Daly River fish and flows* research findings workshop and seminar in June.

SER Aquatic Ecosystems and Water Resources Theme Leader, Assoc. Prof. Michael Douglas; Griffith University's Australian Rivers Institute Postdoctoral Fellow, Dr Mark Kennard, and Senior Research Fellow, Dr Brad Pusey; communicated up-to-date outcomes of the project, which aims to:

- investigate variation in fish distributions
- document indigenous knowledge and the cultural significance of fish
- determine consequences of different water use scenarios on selected fish species.



At the workshop, attendees explained and demonstrated a Bayesian Belief Network model developed by Monash University Emeritus Professor Barry Hart and Dr Terry Chan, and Griffith University's Dr Mark Kennard.

Dr Mark Kennard presenting at the Daly River fish and flows seminar, CDU, NT.
Credit: Hannah Brodie-Hall

The workshop aimed to help water managers and planners understand the implications of where, and how much, water they allocate to different uses and users.

Thirty people from community groups and government agencies attended, including the Northern Territory Government's Department of Natural Resources, Environment and the Arts and Department of Regional Development Primary Industries, Fisheries and Resources, and the Amateur Fishermen's Association of the Northern Territory.



The Daly River, winding its way through the NT.
Credit: Julian Murphy, WWF