WHERE DO BIG FISH GO IN THE WET SEASON?

LAWYER LEADS FIGHT AGAINST MODERN SLAVERY

ODE TO RESILIENT, CONTRADICTORY DARWIN

WHERE DO BIG FISH GO IN THE WET SEASON?
FEATURES

Lawyer leads fight against modern slavery

Social ills grow as goals move out of sight

Partners in slime

Where do big fish go in the wet season?

Picture emerges of northern dolphins

Welcome to the first Charles Darwin Scholar

Refreshing research targets heat stress

Finding hope for the future in the past

Ode to resilient, contradictory Darwin

Young musician reaches for the sky

REGULARS

3 From the Vice-Chancellor

4 Snapshot

26 Q and A

28 CDU publishing achievements

30 CDU art collection

31 Art exhibition Neridah Stockley: a retrospective

32 Limited edition
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Cover: Shutterstock.com image.
Inside cover: Rainbow connection – just as a light shower of winter rain promised to quench Central Australia’s desert landscape, it signed off with this vivid rainbow above the MacDonnell Ranges. Photographer: Patrick Nelson, June 2014.

CONTRIBUTORS

KATIE WEISS
One of the newest writers to join Origins is Charles Darwin University’s Media Officer Katie Weiss. Katie recently moved to Darwin and was formerly a journalist with the mainstream media. Her writing has featured in a range of publications nationally and internationally. In her first edition of Origins, Katie tackles hard-hitting issues surrounding human trafficking victims and perpetrators. She also investigates a curious story about virtual bush tours.

PATRICK NELSON
Regional Public Relations Officer Patrick Nelson talks to PhD candidate Penelope Bergen about her study into how the meeting of two cultures in remote Indigenous Australia may inform better policy. And he catches up with VET music graduate Michael Lindsey about his solo performance at BASSINTHEGRASS. Based in Alice Springs, Patrick also captured our inside cover photograph in which a vivid morning rainbow touches the MacDonnell Ranges after a brief winter shower.

JANE HAMPSON
In her first contribution to Origins, writer Jane Hampson interviews Associate Professor Tess Lea about her new book, Darwin. A born and bred Territorian, and Adjunct Professor at CDU, Dr Lea’s character study of her hometown was published earlier this year and gives some revealing insights into the forces that have shaped the Top End capital. Jane is Special Projects Writer with CDU’s Office of Media, Advancement and Community Engagement.

LEANNE COLEMAN
In her eighth edition of Origins, science communicator and CDU’s Senior Media Officer Leanne Coleman covers two unique research projects specific to the Northern Territory. She reveals research by a conservation ecologist that will help preserve local dolphin populations. She also talks to researchers about a project that could have significant impacts on the way workers handle heat stress.
This is a year of celebration for Charles Darwin University and the entire Northern Territory. In what can only be described as an outstanding achievement, 2014 marks the 25th anniversary of university education in this large, remote and lightly populated jurisdiction.

During the 1980s, the people of the Northern Territory campaigned long and hard for the Federal Government’s support to establish a university. As these pioneers rightly saw it, when young people were forced to move south or east for their university education the risk was high that they would not return.

The NT needed, and continues to need, educated and skilled residents to build a strong local economy and society. The NT certainly could not afford to allow the talent drain to continue and many NT families could not afford the emotional and financial strain of sending away their children.

Since CDU’s predecessor institution, the Northern Territory University, opened in 1989 many thousands of local people have received their education and training without leaving home. And increasingly as the education environment evolves thousands of people from across Australia have completed their university education through CDU.

We therefore have much to celebrate in this 25th anniversary year. Apart from well attended celebrations in Darwin, Alice Springs and Palmerston, and later this year at Katherine, we have also compiled a written history of university education in the NT and produced a video entitled “Our university: A brief history of CDU”. To access these and other information about our quarter-century milestone, I invite you to visit W: cdu.edu.au/25th-anniversary/oral-histories.

In the meantime, this edition of Origins reflects how the university is maturing as an education and training provider, and the high-calibre of our research.

In this edition we explore how lawyers can take a central role in identifying victims of human trafficking. Some 21 million people worldwide are estimated to be victims of this shocking crime.

We also follow work at Menzies School of Health Research, which is using DNA-sequencing technologies to uncover bacterial mechanisms that lead to the development and persistence of chronic infections in Indigenous children.

And we introduce you to the university’s first Charles Darwin Scholar, Professor Janet Browne. I hope you enjoy this edition.

Professor Simon Maddocks
Vice-Chancellor
Population projections help reveal NT’s future

The proportion of Territorians aged 65 years and over is projected to more than double by 2041. Researchers at the Northern Institute have been working with the Northern Territory Department of Treasury and Finance to develop population projections for the NT and its regions. The projections map the changing population for the Territory to the year 2041 and indicate future growth in the demands for services and infrastructure.

Northern Institute Senior Research Fellow, Dr Andrew Taylor said that population change fluctuated greatly in the NT with high rates of growth very dependent on major construction projects.

“Based on historical evidence and anticipated trends, we anticipate long-term growth to continue at around 1.5 per cent a year, which would see the Territory’s population reach about 360,000 by 2041,” he said.

“We are expecting the Territory’s Indigenous population to grow at around the same rate as the Territory average,” Dr Taylor said. “Perhaps the most significant compositional population change anticipated is very high growth in the number of Territorians aged 65 years and over, which, in proportional terms, is projected to more than double by 2041.”

“While this has implications for services, the Territory will still be a relatively ‘young’ population compared to other States and Territories. Growth in the Territory’s older population is from a very low base because people have traditionally retired interstate,” he said.

Students bound for S-E Asia

Up to 72 undergraduate students will take up short-term study opportunities in Southeast Asia during the next year, following the Australian Government’s announcement of $150,000 in grants under the New Colombo Plan Mobility program.

Law, environmental science and Indonesian language students will undertake intensive study programs in Indonesia, and education students will participate in teaching practicums in Hong Kong.

Vice-Chancellor Professor Simon Maddocks said the experience would not only expose CDU students to new ideas, perspectives and friendships, but also would lay the foundation for a two-way flow of students and staff.

“These are potentially life-changing experiences for people, but equally they are an important demonstration of our commitment to preparing graduates with the skills and knowledge to participate effectively in a globalised economy and workforce,” he said.

Eligible School of Law undergraduates will study and research international law at Gadjah Mada University, Yogyakarta, transnational criminal law at the University of Indonesia, Jakarta, and legal pluralism at the Udayana University, Denpasar.

Environmental science students will study tropical zoology, tropical botany and biodiversity courses through Gadjah Mada University’s Faculty of Biology.

The practicums in Hong Kong will occur at international schools where students will gain an insight into the culture and language of the teaching profession in an overseas urban setting as well as gain valuable technical skills and experience.

The Indonesian language students will participate in the Regional Universities Indonesian Language Initiative intensive language and culture program at the University of Mataram, Lombok.

Darwin’s lost library found

A treasure-trove of lost library books used by naturalist Charles Darwin on the 1831–1836 voyage of the Beagle has been launched at CDU in collaboration with the National University of Singapore.

The library has been re-constructed as part of Darwin Online, a project directed by National University of Singapore historian of science and CDU Professorial Fellow John van Wyhe, with funding support from CDU and the CDU Foundation.

Dr van Wyhe said that at the end of the voyage the library was dispersed and its contents had remained a mystery.

“In the 1980s, the editors of the Correspondence of Charles Darwin reconstructed a list of 132 works that were probably in the library based on evidence from Darwin’s notes and other sources. Combining previous lists with new research, we have created our catalogue of 181 works.”

The Beagle library project was funded by the Singapore Government’s Ministry of Education and supported by the Office of the Dean of the Faculty of Science University of Singapore, and CDU and the CDU Foundation. To view the library, visit W: darwin-online.org.uk.

CDU Professorial Fellow John van Wyhe helps launch the Charles Darwin’s Beagle Library from Singapore.

CDU Professorial Fellow John van Wyhe at the Northern Institute, Dr Andrew Taylor.
Fellowship recipient raises bar on environmental art

A Churchill Fellowship recipient from CDU will use the award to further his work in environmental art.

PhD candidate John Dahlsen said the fellowship would help him create art that promoted positive messages about protecting and regenerating the environment.

“I want to make work that has not been seen before in Australia; work that helps to elevate environmental art to the highest levels,” Mr Dahlsen said.

He will travel to Japan and adopt elite Japanese art woodblock, and other Japanese printing methods, into his work.

“I hope to be able to raise the bar in the field of environmental art by incorporating elite printing practices into my own digital print works,” he said.

Mr Dahlsen also will study Vincent van Gogh’s work in Europe and how it was influenced by Japanese prints.

Deputy Vice-Chancellor Professor Sharon Bell led the CDU delegation.

Talks strengthen ties within the North

Senior representatives of universities and government from Timor-Leste, Indonesia and Australia have held a historic meeting to discuss building a strong, cohesive and sustainable region.

The University Roundtable on Sub-Regional Development, which was held in the Timor-Leste capital Dili, is the first in an annual gathering to build understanding of critical issues that face the wider region and to drive opportunities to build stability and prosperity.

Deputy Vice-Chancellor Professor Sharon Bell, who led the CDU delegation, said that universities had the capacity to help transform economies, contribute to social change and nurture the next generation of leaders.

"Research points to the importance of strong social and cultural ties between countries in the sub-region that will promote an environment that is stable, democratic and conducive to economic participation and prosperity," she said.

In his opening address, Timor-Leste Prime Minister Xanana Gusmao stressed the role of universities in educating for global citizenship and the need for inclusive and equitable growth across the region. The next roundtable will be held in Darwin in 2015.

Northern development: Partnering with Singapore

His Excellency Mr Philip Green OAM High Commissioner to Singapore has given a special presentation at CDU’s Northern Institute as part of the Institute’s 2014 series on the development of Northern Australia.

His presentation focused on the “complementarities” between Singapore – a major centre of global wealth – and the growing industries of Northern Australia.

He noted that Australia and Singapore were at a positive moment in history, and that the growth of the middle-class in South-East Asia provided great prospects for Northern Australia agribusiness.

“There are 450 million people within five hours flight of Darwin and as the middle-class grows, so does the demand for protein,” he said. His Excellency has been High Commissioner in Singapore for the past 18 months.

Awards for online innovation

CDU has received two international awards for its innovative course on naturalist Charles Darwin and the unique biodiversity of Northern Australia.

The university was recognised at the annual Blackboard Catalyst Awards for its first Massive Open Online Course entitled “Charles Darwin, Evolution and Tropical Australia”, receiving a 2014 Exemplary Course Award and a Directors’ Choice for Courses with Distinction.

Pro Vice-Chancellor Academic Professor Martin Carroll said the international awards were exceptional recognition of CDU’s dedication to innovative on-line learning.

“This is truly significant for our team, with thousands of institutions competing in this space,” Professor Carroll said.

“The team of multimedia developers, researchers and teaching staff designed the course to cater to a global audience in an open educational environment,” Professor Carroll said.

A revolutionary view of the bush

Animator Dan Hartney uses a specialised 360 degree panoramic tripod head to capture images of the bush.

Students can estimate the bushland’s ground cover in the Virtual Excursion.
DAN HARTNEY reveals how he created an interactive learning tool that brings the bush into the classroom.

Specialists at CDU’s Innovative Media Production Studio (IMPS) have brought the bush into the classrooms of ecology students with the development of a virtual field trip. At the request of ecology lecturer Dr Carla Eisenberg, IMPS developed the 360 Panoramic Virtual Excursion for students, who are physically unable to attend field trips, to gain field study skills digitally.

Animator Dan Hartney made the interactive learning tool by taking 36 photos of bushland with a 360 degree panoramic tripod head. He stitched together the digital images to create a 360 degree panoramic effect.

The Virtual Excursion allows students to identify plants and engage in standard flora survey procedures. They also conduct virtual field studies using a virtual one-square metre quadrant to estimate ground cover.

Canopy-cover measurements can be conducted with a virtual spherical crown densiometer, a mirror etched with 24 quarter-inch squares that reflect the canopy above. “It does give that real sensation of being in the bush,” Dr Eisenberg said.

Top Dan Hartney created the 360 Panoramic Virtual Excursion to bring the bush to aspiring ecologists.

Above The Virtual Excursion helps students gain field study skills without leaving the classroom. Pictured: Muhamad Shimal and Kemi Alaba-Eko.
CDU Law lecturer Felicity Gerry QC wants human traffic victims to be protected, not prosecuted.

People don’t seem to realise how brutal human trafficking actually is.

Lawyer leads fight against modern slavery
FELICITY GERRY investigates a new approach by lawyers to end the widespread industry of human trafficking.

While human trafficking is a highly lucrative industry that extends to all corners of the globe, as a crime it often slips under the public radar. But it has been firmly on the agenda of barrister Felicity Gerry QC for the past decade since she came face-to-face with it while defending a woman in a human trafficking trial in the United Kingdom.

According to the United Nations Office on Drugs and Crime, the sectors most frequently associated with human trafficking are agriculture or horticulture, construction, garments and textiles under sweatshop conditions, catering and restaurants, domestic work, entertainment and the sex industry. Women and children were by far the main victims of sex trafficking.

As a law academic at Charles Darwin University, Miss Gerry has used her position to educate lawyers from all disciplines about the action they can take in countering this horrendous crime.

Miss Gerry entered this shocking world 10 years ago when she defended a woman who was on trial for human trafficking. The woman was accused of being a madam in a brothel, controlling women who were trafficked. She was also accused of being the girlfriend of one of the traffickers. Miss Gerry said she believed, however, that the woman was herself a victim of human trafficking.

Felicity explained: “Sometimes, where women suffer the brutality of being trafficked, they have to engage with the traffickers to survive.” The woman was found guilty and served a seven-year prison sentence, but Miss Gerry continues to give advice in the legal process to gather enough fresh evidence to enable a full appeal. She said people often refused to reveal in court that they were victims of human trafficking for fear of the violent and degrading repercussions they might face if their traffickers discovered the disclosure.

“These people are so frightened that they don’t reveal they are human traffic victims and are imprisoned rather than supported,” Miss Gerry said.

She told this year’s Northern Territory Bar Association Conference in Timor-Leste that defence lawyers could play leading roles in identifying human trafficking victims once the people entered the legal system. Miss Gerry said victims could gain access to support services, rather than go to jail, if their defence lawyers could prove they were victims of trafficking. Such allowances could be made under non-punishment and non-prosecution provisions in international law.

“In the right case, it will be possible to argue that a trafficked individual should not be prosecuted at all, or that they should not be punished.” Miss Gerry said at the conference.

And it was not just criminal lawyers who Miss Gerry said had a responsibility to expose and prevent human trafficking, corporate lawyers also could have an impact by ensuring their clients avoided investments in exploited labour and applying existing reporting obligations in relation to criminal conduct.

“As a lawyer, it really should be your responsibility to look at how to avoid associating the exploitation of people with your client’s business,” Miss Gerry said.

She said lawyers representing clients in businesses such as construction or mining, which often employed subcontractors or migrant workers, could adopt policies to ensure the ethical treatment of their employees. For example, lawyers could scrutinise subcontractors to ensure their dealings were ethical, train their own legal staff and report suspicions about human exploitation.

“I think there is quite a move towards corporate responsibility globally,” Miss Gerry said. “The question is whether it filters through from grand statements of corporate responsibilities to actual reality.”

Ultimately, Miss Gerry said the issue could only be prevented by improving livelihoods in underdeveloped countries, where many people became victims of human trafficking after being falsely promised better lives. Miss Gerry said widespread awareness was also necessary to tackle the issue.

“People don’t seem to realise how brutal human trafficking actually is,” she said. “Maybe it is because we have used a neutral word that doesn’t really describe how serious it is. It is slavery.”

The vast majority of sex trafficking victims are women and girls. The industry thrives on force, fraud and coercion of victims.
Social ills grow as goals move out of sight

Research by psychologist Simon Moss into organisations’ impact on the wellbeing of individuals has potentially far-reaching consequences for wider society.

The disconnect that people often feel between the work they are doing and the vision they have of themselves in the future is being explored in a nationwide investigation into worker “dissociation”.

Senior lecturer in the School of Psychological and Clinical Sciences at Charles Darwin University, Dr Simon Moss said he expected that the research findings would deliver benefits across both the public and the private sectors.

“Our research shows that a whole raft of problems in society – from substance abuse, alcoholism and crime to anxiety and depression – can be ascribed to an overlapping cause: a feeling in people that perhaps their activities or life now is dissociated from their hopes and aspirations for the future,” Dr Moss said.

“Many recent trends in society, such as the increasing instability and inequality of jobs, exacerbate this dissociation from the future.”

Dr Moss’ research has further found that this disconnect motivates people to “feel good” in the short-term rather than strive for long-term goals. “In the 1960s and 1970s people tended to stay in jobs longer and set long-term goals. They were confident that with steady work these goals could be achieved.

“Our research has found that many people no longer feel this confidence, which leads them to ‘short-term’ feel-good behaviours, which are often self-destructive,” he said.

Dr Moss’ study involved asking people from many communities across Australia to undertake tasks that either instilled or inhibited a sense of connection to the future – and then examined the effects of these tasks on wellbeing, motivation and productivity. These studies, undertaken with Dr Samuel Wilson, from Swinburne University, began in 2012 and initial results will be published this year.

Dr Moss said that the research findings would benefit both the public and the private sectors.

“If dysfunctional organisational structures are contributing to social problems then improving these structures will have a flow-on effect. Interventions by management could significantly diminish an array of mental illnesses and self-destructive behaviours, as well as work-related issues such as bullying and harassment.”

As a psychologist with a particular interest in organisational behaviour, Dr Moss’ primary research focus is on how organisations impact on mental health and well-being, both of which are fundamental to the effective functioning of an organisation.

“Setting targets and goals is fine, but imposing them on employees and striving for them without creating stability and without giving people a sense of purpose and ownership is counter-productive. It just makes people stressed out and, paradoxically, less productive.”
Senior lecturer Simon Moss is investigating the influence of organisations on mental health.

Instability and inequality of jobs exacerbate this dissociation from the future.
Indigenous children in the Northern Territory suffer alarmingly high rates of chronic middle ear and lung infections. Recent surveys have found that about 20 per cent of these children have holes in their eardrums, a rate substantially higher than the four per cent level described by the World Health Organisation as indicating a public health emergency.

More than 90 per cent of young Indigenous children in remote Northern Territory communities suffer from middle ear infections at any one time. These infections cause a degree of hearing loss, which if left untreated can affect educational outcomes, lead to social disadvantage and other life-long consequences.

Dr Robyn Marsh and Dr Heidi Smith-Vaughan, from Menzies School of Health Research, are using DNA-sequencing technologies to unravel the bacterial mechanisms that lead to the development and persistence of these chronic infections.

Dr Marsh said that the microbiology underlying chronic ear and lung infections could be extremely complex.

“We know from earlier culture-based studies that many different bacteria can be present in the ears or lungs of children with chronic infections. When we use DNA-based methods we find that even more bacteria are present.

“Our current research aims to work out how these complex bacterial communities develop and what key mechanisms contribute to tissue destruction and disease progression as this is an important first step towards the development of new treatments.”

Bacteria in the nose can travel deep into ears and lungs where chronic infections may develop. Untreated chronic lung infections can result in loss of lung function and reduced life expectancy. Bronchiectasis is a severe form of chronic lung disease that affects 1 in 68 Indigenous Territory children. Indigenous adults with this disease die in their 30s and 40s.

Effective prevention and treatment strategies are needed to halt these diseases before long-term consequences develop. Achieving such broad spectrum treatments, however, remains a challenge for researchers and health professionals.

Building on more than 20 years’ experience, Dr Heidi Smith-Vaughan is using whole genome sequencing methods to characterise one of the most important bacteria in chronic paediatric ear and lung infections, Haemophilus influenzae.

“Haemophilus influenzae is a highly diverse bacterium of which different strains can use different mechanisms to initiate and progress disease. We are studying the genomic diversity of H. influenzae, including its mechanisms of pathogenesis and interaction with the host immune system,” Dr Smith-Vaughan said.

“In collaboration with Dr Marsh, we are now trying to understand how H. influenzae strains behave when they are in complex mixed bacterial communities to take us another step closer to understanding the puzzle of treating this complex condition.”

Central to their research is an established multi-disciplinary team of clinicians, microbiologists and immunologists working collaboratively towards a comprehensive model of chronic airway infections.

As part of this program, Menzies researchers have partnered with Dr Ruth Thornton, from the University of Western Australia’s School of Paediatrics and Child Health, to assist in understanding the role of biofilm in chronic respiratory infections.

“We are only just beginning to understand the importance of biofilms or ‘bacterial slime’ in a lot of chronic and recurrent infections including middle ear infections and lung infections. Studying biofilms is really important as bacteria residing in this slime are protected from the children’s immune response and are up to a thousand times more resistant to antibiotics, meaning that many of the treatments we use aren’t helping,” Dr Thornton said.

“In Western Australia, we have previously uncovered biofilms present and contributing to middle ear infections. Now with our collaboration with Dr Marsh and Dr Smith-Vaughan at Menzies we are uncovering biofilms in the lungs of children with lung disease.”

Understanding biofilms and their resistance to antibiotics has important clinical implications. Dr Thornton’s earlier work has already translated into clinical trials of a new anti-biofilm therapy to improve treatment outcomes for children with middle ear infections. The Menzies and University of Western Australia team has recently received further funding from the Financial Markets Foundation for Children that will extend their biofilm research in children with chronic lung disease.
Bacteria residing in this slime … are up to 1000 times more resistant to antibiotics.
Where do big fish go in the wet season?

A variety of techniques is being used to detect the movements of big fish in Kakadu National Park and the Daly River region of the Northern Territory. Researcher DAVID CROOK and his team are working to understand the connectivity between the floodplain, river and ocean.

While it is clear that fish such as barramundi use the floodplain at times, many questions remain: How long do fish stay on the floodplain; how far do they move; are there preferred fish habitats, and what do fish do as the water recedes and the floodplains begin to dry out?

In October 2013, Principal Research Fellow at the School of Environment, Associate Professor David Crook and his team began to investigate the movements of 65 barramundi and 55 forktail catfish throughout the wet season.

"We are investigating these species because they are important to recreational and commercial fishermen and for traditional harvest, and because they make up a large part of the biomass in Kakadu’s river systems,” Dr Crook said.

The fish were caught from the Yellow Waters area of Kakadu National Park, a wetland system that is part of the South Alligator River floodplain. This river system, which is the largest in Kakadu, contains extensive wetlands that include river channels and floodplains.

Acoustic and radio-transmitters were surgically implanted into the fish. The acoustic tags were detected using an extensive array of fixed receivers, while the movements of the radio-tagged fish were tracked by boat and helicopter every two weeks until May 2014.

The research team saw a range of fascinating behaviours. The barramundi moved up to 50 km from where they were released, while the catfish moved up to 20 km. After the first major rainfall in early December, researchers noted a big spike in fish movement, with some moving several kilometres out on to the floodplains and even disappearing altogether from the 3000 sq km area being surveyed by helicopter.

As the waters receded most of the fish moved back to the billabong system in which they were tagged. In many cases their last recorded location in May 2014 was within a couple of hundred metres from their original tagging location.

“Anecdotal information suggests...
that a lot of the species in the Northern Territory may be diadromous, meaning they migrate between the ocean and freshwater during their lives,” Dr Crook said.

“While our findings are showing that at least some tagged fish move between fresh and saline water, the movement patterns are much more complex than we had expected and there is a lot of individual variation in movement behaviour,” he said.

The research team has also used otolith chemistry to determine whole-of-lifetime movements of ecologically important fish species in the Daly River, such as catfish and mullet. Otoliths are the ear stones of fish, functioning for hearing and balance in much the same way that they do in humans. They are made of calcium carbonate, and as fish grow, growth rings similar to those found in tree trunks are deposited as chemicals from the surrounding water are locked into the otolith structure.

By analysing these chemicals, researchers can determine not only the age of the fish, but also where it has been at various stages in its life. “Tracking and otolith chemistry are complementary techniques. Although tracking provides very fine-scale detail of fish movements, we can only monitor the movements of fish large enough to be tagged,” Dr Crook said.

“Otolith chemistry allows us to go right back to the early life history of a fish to work out where it was living as a larvae and juvenile. In southern Australia, a lot of the connectivity between river channels and nearby habitats was cut off by human activities before we had any of these tools to measure the impact. Up here, we’ve still got relatively pristine systems to study the importance of connected catchments and coasts.

“We hope that the findings from this research will ensure that policy and management decisions regarding our fisheries and their habitats can be made using sound scientific evidence.”

Dr David Crook is one of several hundred researchers funded by the Australian Government’s National Environmental Research Program.
Picture emerges of northern dolphins

With scant previous scientific exploration of dolphin species in Northern Territory waters and development around the coast on the rise, PhD candidate CAROL PALMER has discovered crucial information that will help secure the species’ future.

Off the coast of Northern Australia, a fin cracks the surface of the mirror-flat sea. Water explodes from the blowhole on a smooth black head before the elegant creature glides back into the deep. Sightseers on the nearby boat erupt with excitement as they spot the curious dolphin that has come along side. It’s a false killer whale, one of four species being investigated by Charles Darwin University PhD candidate Carol Palmer.

“There is nothing quite like locking eyes with a six-metre false killer whale as it surfaces along the side of the boat,” Ms Palmer said.

“There is a real knowledge gap about the species of coastal dolphins found in Top End waters. Until recently we had very little information on the species in monsoonal Northern Australia. There was also concern due to development pressures in Darwin Harbour. With no baseline data, there was no information on their status and how best to undertake on-ground conservation management actions.”

As an ecologist with NT Parks and Wildlife, Carol Palmer is no stranger to researching the NT’s threatened wildlife. During the past 20 years she has travelled throughout the NT working on flying foxes, Gouldian finches, golden bandicoots, Carpentaria rock-rats and green turtles.

But her focus moved from the land to the water and coastal dolphins in 2007 when she began a PhD. Since then she has been scouring the coastline and rivers, racking up more than 324 days traversing approximately 10,000 km of coastal areas in search of four species of dolphin.

“In 2007 almost no research had been carried out on either whales or dolphins in the Northern Territory,” Ms Palmer said. “We did suspect that, like the tropical waters around Queensland, the NT may have species of snubfin, humpback and bottlenose dolphins.

“We knew that to conserve and manage these species effectively we needed to improve our understanding of their distribution and abundance.

Carol Palmer has discovered crucial information that will help secure dolphin species.
Beginning her research in the South and East Alligator Rivers in Kakadu National Park, Ms Palmer found that some species of dolphins were travelling as much as 60 km upstream in these major tidal rivers.

“The snubfin and humpback species are more cryptic than others, and are more difficult to find. Many people may be fishing in areas and not even know they are there. It is really a case of quietly approaching an area you think the species may inhabit and then waiting for a small glimmer of a dorsal fin in the sunlight underwater. They can feed in muddy and turbid waters and do not bow-ride like other dolphin species.”

Ms Palmer’s genetic and taxonomic work on these species would help to clarify the species status of the humpback and snubfin dolphins across Australia.

“We discovered that the described Australian snubfin *Orcaella heinsohni* in Queensland waters was also the same species found in the NT and the Kimberley,” she said. “Previously the ‘snubby’ was known as the irrawaddy dolphin *O. brevirostris* found in tropical waters off Indonesia and Australia, but our biopsy samples from free-ranging snubfin clarified that this species, *heinsohni*, is the same species that occurs in Queensland.

“Our sampling also has supported a collaborative research project helping to confirm that the humpback dolphin found in the NT waters that was known as the Indo-Pacific humpback *Sousa chinensis* is in fact an Australian species now known as the Australian humpback *Sousa sahulensis* found in Australian waters.”

In 2008, Ms Palmer also began surveying areas in Coburg Marine Park (Garig Gunak Barlu National Park) located in Arnhem Land and Darwin Harbour. “Port Essington, located in Coburg Marine Park, is a hotspot for dolphins and the area appears to be a critical habitat for the species,” she said.

“It became clear that all dolphin species in northern waters were socialising with each other so my research grew to include more well-known and sociable species, the bottlenose dolphin and a surprise addition of false killer whales *Pseudorca crassidens*, after they were found in Port Essington and Darwin Harbour.”

She worked to gather further genetic samples and photograph the dorsal fins of the dolphins to identify individuals and provide baseline population estimates.

She also worked to collate existing and historical data.

“The dorsal fins of dolphins are like a fingerprint,” she said. “Each one has markings or scars that we can use to distinguish individuals. We also started a community sighting database, where people could send in their pictures and videos of dolphins along with the GPS coordinates of where they were sighted.”

For the first time she began piecing together information about their population size and distribution in the NT, including the areas that were important for mothers and calves, and where they lived. These population estimates would be the first in monsoonal Northern Australia for all three species.

“What we now know is that the dolphins found in the NT occur in small groups of between one to 12 individuals;
they are slow-growing and long-lived, living to the age of around 50 years,” she said. “They also only breed once they reach the age of six, have a long gestation period of 12 months and will parent their young for three or four years.

“This life history is very similar to dugongs. Research on dugongs suggests that the loss of as little as two per cent of breeding females could cause population numbers to start dropping.”

Ms Palmer said that understanding these characteristics was important for the future management of the species.

“We have estimated there are approximately 200 snubfin dolphins in Coburg Marine Park spread widely in pods. This means that with a loss of as few as four breeding individuals in one year within this group, this population could start to decline.

“We also know that although some groups travel to the big tidal rivers to feed, they probably have a limited home range,” she said. “We also think that the females don’t stray too far from where they are born. These characteristics combined mean that these species are naturally vulnerable.”

Ms Palmer recently submitted her PhD thesis entitled “Conservation biology of dolphins in coastal waters of the Northern Territory, Australia.”

Dolphin species in northern waters socialise with each other.

Markings or scars on dorsal fins help researchers distinguish individuals.
An eminent science historian recently completed her year as CDU’s first Charles Darwin Scholar. Harvard University Aramont Professor of the History of Science Janet Browne presented public lectures during her recent visit to Casuarina and Alice Springs campuses.

Explaining her interest in the history of science, Professor Browne said: “With such significant accomplishments in science today, I think it is important to understand how we got to where we are. Charles Darwin was such a prominent feature in science history and his theories are still in use today.”

Professor Browne is widely known for her work on the history of 19th Century biology and specialises in re-evaluating the life, times and work of Charles Darwin.

During her visit to the Northern Territory, Professor Browne delivered the first Charles Darwin Oration entitled “Charles Darwin: His Life in Public and Private” in Darwin and Alice Springs. She also participated in CDU’s first Massive Open Online Course (MOOC) entitled “Charles Darwin, Evolution and Tropical Australia”.

“The Northern Territory is simply stunning,” she said. “It has been a very special experience visiting CDU. I was not only thrilled to visit and learn about the natural environment and Indigenous culture, but also to meet the staff and students. A highlight was participating in the MOOC and I also hope to participate in further collaborative projects with CDU.”

Professor Browne also thanked her hosts at CDU, the Northern Institute, saying she felt privileged to learn about its important work.

Among her many achievements, Professor Browne received critical acclaim for her two-volume biography of Darwin, Charles Darwin: Voyaging (1995) and Charles Darwin: The Power of Place (2002), described by reviewers as “monumental” and “definitive”, and has won the National Book Critics Circle Award for biography, the Pfizer Prize for Biography from the British History of Science Society, and the Royal Society of Literature Prize.

Charles Darwin Scholars are eminent and accomplished researchers in either the history of Charles Darwin, evolutionary biology, or fields closely related to either of these areas, from across the world. The Scholars hold the honorary position for 12 months during which time they will visit Darwin for a short period to deliver the annual Charles Darwin Oration and collaborate with staff and students.
Refreshing research targets heat stress

Elspeth Oppermann and Matt Brearley are combining research talents to build a picture of the impacts of heat stress on workers.

For outdoor workers in the Top End of Australia, the build-up (October to December) means working in stifling heat, with temperatures regularly exceeding 33°C and humidity levels of up to 80 per cent. To find out more about how workers experience and respond to these conditions, researchers are combining social analysis with core-temperature monitoring technology usually reserved for elite athletes.

The Northern Territory is experiencing an oil and gas boom, and workers from across Australia and internationally are looking towards capitalising on the opportunities. The transient nature of the workers and weather extremes make research into the impacts of heat stress not only vital for safety, but also for peace of mind for workers and industry alike.

The team from Charles Darwin University and the National Critical Care and Trauma Response Centre (NCCTRC) is assessing the impacts of heat stress on labour-intensive industries in the NT to help improve current work-related heat stress management strategies.

CDU social researcher Dr Elspeth Oppermann said the Top End experienced severe levels of heat and humidity for more than half the year, but little was known about the social and organisational mechanisms through which heat stress was managed in practice.

“The impact of combined high levels of humidity and heat on productivity, wellbeing and the safety of workers is not commonly recognised in the NT,” Dr Oppermann said.

“We are talking to workers about the level of heat stress they are experiencing on the job, and how they are handling it. We want to get a better understanding of what workplace physical, social and cultural conditions might be enabling or reducing capacity to manage heat stress.”

Dr Oppermann is working with Dr Matt Brearley, from the NCCTRC, to build on their state-of-the-art heat stress research program, monitoring individual physiological responses in real-time and linking these to the physical workloads and environmental conditions.

“It is the sort of monitoring previously reserved for elite athletes to improve performance and win medals,” Dr Brearley said. “In the NT, those working in labour-intensive industries are periodically exposed to hot conditions and can experience similar types of physical stress, making them ‘industrial athletes’.

“The NCCTRC has monitored disaster and emergency responders to assess heat stress while working in hot conditions, the impact of heat acclimatisation and field cooling strategies to maximise health, safety and performance. The research is being applied locally, nationally and internationally, most recently to assist health care workers in biological suits responding to the Ebola virus outbreak in West Africa. We are translating this methodology to assist NT industry with heat stress management strategies.”

Dr Brearley said they had found that many of the current strategies regarding heat stress were ineffective.

“Workers resting in the shade during their break provides very limited cooling in harsh NT conditions,” he said. “We have also identified a ‘heat hangover’ from consecutive days of strenuous work in the heat. More effective cooling techniques are required on-site to maintain work capacity and safety, and limit the heat hangover phenomenon.

“We have completed comprehensive studies of cooling strategies inclusive of misting fans, water immersion, slushies (crushed ice), ice vests and ice towels, with tailored strategies making a difference for emergency responders.”

He said Dr Oppermann’s research would address a gap in the research. “There is limited knowledge regarding the social side of the research,” he said.

“It is vital due to the varying degrees of understanding of climate, workload and associated behaviour of workers in the NT. There is no point in coming up with new physical strategies if we don’t understand how workers deal with heat and how they manage themselves.”

The two-pronged approach of combining the social and physiological analysis aims to give an overall picture and improve the chances of a strategy’s success.

“This research will give us a unique insight into the daily, practical decisions people are making and why. If we can find out how people manage themselves throughout the day, we not only can determine knowledge gaps but also understand behaviour” Dr Brearley said.
“The workforce in the NT is very transient. We will be interested to explore the differences between local workers and those from interstate or overseas; what beliefs and behaviours regarding heat stress they arrived with, and whether these have changed through their experiences here.

“Through the integration of physiological and social analysis, we hope to generate a strong evidence base for organisational interventions to improve heat stress management that is genuinely responsive to the work that they do, and the people who do it.”

Like the onset of the cool monsoonal rains in the months following the “build up”, for those working outdoors in one of the country’s most extreme environments, this research could help bring some relief.

The ongoing project is entitled “Organisational change and social learning: cultures, behaviours and structures in managing heat stress in the Top End”.

Within the first couple of days of moving to the Northern Territory from Wexford in Ireland, David Walsh returned to his accommodation one evening to feel the onset of what he thought was a stroke. He had no idea that it was sunstroke.

“We had been at the wave pool and I got really sunburnt,” David said. “I had no idea that the sun could make you sick, or about water and shielding your skin from the sun.”

Arriving in the Territory on a construction working visa, he took a job laying pipes. “At first the weather was unbearable,” he said. “I was wearing a singlet and shorts on-site and thought that two litres of water was the amount I was supposed to drink. It was the complete reverse to Ireland where we are usually trying to keep warm by drinking soup out of a thermos on our break.”

Since then he has joined company BMD as the leading hand of the pipe and road crew working on the Muirhead development near Darwin. The company regularly invites Matt Brearley to talk to staff about heat-stress management.

“It has been a steep learning curve for me,” David said. “I realise now how much there is to know about working in the NT’s conditions. Two litres of water is nothing. We also receive a lot of education, such as checking your urine. I now keep drinking water long after I get home for the day. Previously I had been going to bed dehydrated and it was a cycle.

“As a lead man I also want to make sure that the other workers understand the dangers, particularly if they are not local, and I make sure I know the signs of dehydration. No-one wants to see anyone sick, or hurt on-site.”
PENELlope BERGEN is exploring how the meeting of two cultures in the most remote corner of Indigenous Australia may inform better policy in the future.
A classical violinist and magical realism novelist who was born on a tropical island has just begun her next “life-changing adventure” with Charles Darwin University, as a PhD candidate in Alice Springs.

Penelope Bergen, also a former deputy editor of the Red Centre’s Centralian Advocate newspaper, said she would relish the academic experience, as daunting as the challenge might seem at the start.

Having worked for the United Nations in Timor-Leste as a consultant radio production trainer, Penelope’s time in Central Australia began in 2007 in Yuendumu, a community of about 700 people 300 km northwest of Alice Springs, where she took up a radio training position. Her interest in her thesis topic grew from these experiences.

“It’s exciting and terrifying in equal measure, but I’ve never been afraid to test the limits of my capabilities,” Penelope said.

“I’m investigating the history of government intervention into remote Aboriginal Australia with a view to tracing the roots of some of the failures and successes of policies such as the Northern Territory Emergency Response, and Stronger Futures.” Her thesis is entitled “Between the State and the Blackfellas, 1964–74: the story of failure and success in Indigenous affairs”.

She said she planned to base her research on the observations of people who administered and applied these policies, or who were on the ground and experienced their implementation and the effects they had.

Penelope said the project would focus on the Australian Government’s development of new communities in the Western Desert and far north of South Australia between 1964 and 1974. “There were Aboriginal people in the area who were yet to have ‘first contact’ with European culture during that period.

“What can we learn about the success or effectiveness of interventionist policies that brought well-intentioned white-fellas to the remotest corners of Australia, and how might these lessons inform Indigenous affairs in the future?”

This move into the centre of Australia was in stark contrast to her previous decade, which was spent mostly in the Netherlands playing chamber music as a freelance violinist, and her childhood on the island of Bougainville, Papua New Guinea, where she spent seven fun-filled years without television, telephones or shoes.

Then Penelope’s Dutch-born father relocated the family to country New South Wales, shortly after which the youngest of four children was “discovered” for her musical acumen and sent to an eisteddfod.

This might have been a tough experience for a youngster from the bush, but it represented a critical milestone in her childhood. "I was the shyest kid in the world and didn’t speak to anyone outside of my family, when all of a sudden I was expected to sing in a massive town hall. I had never been so mortified."

She clearly adapted quickly. By age 11, Penelope had met esteemed Japanese violinist Shinichi Suzuki (in Japan) and had played at the Sydney Opera House, and by 15 she knew she wanted to be a professional violinist.

It was a career that took her to the Netherlands, where between musical engagements, she penned the novel Heaven is Covered with Postage Stamps, and made a radio documentary that paved the start of a career in journalism.

“I’ve never been afraid to test the limits of my capabilities. Being a musician helped me as a journalist. Having studied composition I knew how to start something, piece things together, work with voices, develop ideas and finish something.

“Writing the novel was also constructive in that I experienced the growth, development and evolution of one little idea. It was a process of constant renewing, changing and letting go. I expect all of this will come into play during my academic venture.”

Penelope, who still regularly plays the violin, said she had two more novels “in her head”, but these would have to wait until she has finished the thesis. We will stay tuned. ✪
A portion of Brown’s Mart in Darwin. At the time of its construction in 1885, it was one of the few privately owned commercial buildings built using local stone rather than corrugated iron.
Ode to resilient, contradictory Darwin

Darwin, the only Australian capital city named after a major public intellectual, is now the subject of a book by an academic. The “great thinker” mantle is a seeming contradiction for the Top End’s frontier capital, but as TESS LEA’s book Darwin reveals, this contradiction is merely the first of many.

Darwin, written by anthropologist Associate Professor Tess Lea, is one in a series of books about Australia’s capital cities published by NewSouth Press, Sydney.

"NewSouth Executive Publisher" Phillipa McGuinness asked me to suggest a local fiction writer to take on the job of excavating Darwin’s history," Dr Lea said. “I suggested lots of names, as Darwin has much creative talent, but I then thought about it overnight, the idea wouldn’t leave me. I realised it was a book I had to write. This book is my ode to Darwin, to my hometown.”

The resulting work, a nifty 50,000 words that took a year to craft, is a hybrid creation: a social history, an anthropological study and a memoir. It is also an adept evocation of a place swathed in heat, which considers how geology, topography, climate and social history have shaped Darwin’s soul.

“We have such a human-centred view of history, and I wanted to consider the non-human forces that have shaped us,” Dr Lea said. “Mosquitoes have limited where we can build, so Darwin’s suburbs are all compressed, while heat and extreme weather make possessions almost meaningless.”

Darwin also touches on issues around climate change, development and the build-up of United States armed forces in the North – issues that go beyond the image of the Top End capital as a laidback, out-of-the-way place full of crocs, eccentric locals and Aboriginal art. Darwin is the first Australian city to have known war, enduring extensive bombing raids during World War II, and a growing US defence presence means that the military, more than ever, is a major part of Darwin’s raison d’être.

“Darwin is a garrison town. It wouldn’t exist if it wasn’t for Defence. And its strategic importance is growing,” Dr Lea said.

“There’s a growing US defence presence in the North, and the implications of this are only just beginning to be discussed in the public arena. Forums sponsored by CDU’s Northern Institute are leading the way in this regard.”

Dr Lea’s own recollections of growing up in Darwin are woven throughout her book; indeed the book begins with her own account of surviving Cyclone Tracy as a young girl. And while her very fond connection with her subject is evident, Dr Lea’s take on Darwin, past, present and future is notably devoid of romance. Particularly for Old Darwin: A quasi-mythological, multicultural frontier-town that has been razed and rebuilt and razed again as Darwin, the eternal survivor, has reinvented itself.

“I understand the romance, but I don’t share it. As an anthropologist I’m trained not to,” Dr Lea said. “I wanted to avoid clichés about Darwin’s past and include all of Darwin’s contradictions: the beauty and the ugliness, the multiculturalism and the racism.”

While Darwin has been praised for its literary edge and journalistic flair, Dr Lea points out that academic rigour was foremost in her mind as she wrote the book.

“I knew I was writing for two audiences: people who knew what I was talking about, and those who didn’t. I was writing both an academic essay and an airport read. My research provided ‘academic scaffolding’ for what I was writing. It kept it rigorous. In a tighter setting you can’t get away with loose concepts.

“There is now a real pressure on academics to make their work ‘accessible’ to wider audiences,” Dr Lea said. “But it is important to tack between the two – between writing for both an informed and broader audience. As academics our value-add is in our expertise. That is our point of difference.”

Dr Lea is an Adjunct Professor with CDU’s Northern Institute and an ARC QEII Fellow at the University of Sydney.

When pharmacist HANA MORRISSEY left the Australian Army after 17 years, she still sought the excitement she had enjoyed in her military career. She found it in teaching and researching in pharmacy and as an instructor in mental health first aid.

What sparked your initial interest in pharmacy?
My uncle from my mother’s side was a pharmacist academic. He had his PhD from the University of Adelaide. I loved what he did and wanted to be like him. My parents wanted me to do medicine like my other uncle and my older sister, but it was not my passion.

How did you become a university lecturer? Was there a turning point that brought you along this path?
After 17 years in the Australian Regular Army as a full-time officer, I wanted to retire to a civilian career as exciting as my military career. Academia and research was the only option to catch up with the dream that got me into pharmacy in the first place. Now I am having the three worlds I love: I am still an Australian Active Reserve officer, a research-active academic and a hospital pharmacist.

You have a special interest in challenging stigmas connected with mental health. How did this interest develop?
In 2007, I took long service leave from the Army and worked as the Director of Pharmacy in Justice Health NSW, a state-wide health service for corrective services facilities. It was an eye-opener to see the large number of people who were suffering from mental illnesses there. This started me thinking that, if they were treated early and appropriately, could their current situation have been prevented? I started to study mental health. I took a two-year postgraduate diploma in community mental health at Monash University and have not stopped since I finished it in 2010.

You are an instructor in mental health first aid. Given that more people in Australia are affected by mental health issues than by heart disease, why does mental illness have such a negative profile?
If we follow what many people say “seeing is believing”, this may explain why. People can see someone with a broken leg, or someone having an asthma or heart attack. They have a physical presentation, but we cannot see mental illness in the same way. Even when mental illness shows physical signs, people often relate those signs to personal weakness as they may present as fatigue or pain. Also some cultures and religions do not see mental illness as medical conditions. As a result of the poor awareness of mental illness some people in power positions such as employers, landlords, and teachers discriminate against people with mental illness by excluding them, which usually makes the mentally ill person’s quality of life worse, but it also stops people from seeking help in an effort to avoid discrimination.

What do you find most challenging in working in the space of mental illness?
I think the most challenging part is the first two hours in each mental health first aid workshop, getting the message through to people who have nothing in common, sitting in the same room, many doing the course because they have to do it for work, coming from around the world with different beliefs and different cultures. It is very rewarding, however, to see the positive energy after that and to read their feedback appreciating the knowledge and how they will use it to help others.

How would you describe the most rewarding moment in your career?
Every time I finish a degree or research project it feels like it is the most rewarding moment ever, and this is why I have not stopped studying or researching since I graduated in 1982.

If you were not a pharmacist and university lecturer what would you be?
If not a pharmacist probably I would have been a medical practitioner, and if not an academic probably I would have remained in the Army full time.

What interests you outside your work?
My three daughters (31, 28 and 22 years); Rotary; cross country running and long-distance walking.

What is the best advice you have received and who offered it?
Be myself not what others want me to be. My mother offered it and she led by example.

Who or what inspires you?
Not humans but dogs. They do not care how they look, they are very smart, good communicators without using a word, they offer unconditional love, and they are competitive, always playful, forgiving, and funny. They never grow up and always radiate happiness.
This is the first climate change adaptation plan produced for a national faunal group anywhere in the world. It outlines the nature of threats from climate change to the Australian bird taxa, and provides recommendations on what might be done to assist them and approximate costs of doing so. It also features an analysis of how climate change will affect all Australian birds, explains why some species are likely to be more exposed or sensitive to it than others, and explores the theory and practice of conservation management under the realities of a changing climate.

Species profiles include maps showing current core habitat and modelled climatic suitability based on historical records, as well as maps showing projected climatic suitability in 2085 in relation to current core habitat.

Climate Change Adaptation Plan for Australian Birds is an important reference for policy makers, conservation scientists, land managers, climate change adaptation biologists, as well as bird watchers and advocacy groups.

Climate Change Adaptation Plan for Australian Birds
Edited by Professor Stephen Garnett and Dr Donald Franklin
Published May 2014, CSIRO Publishing, ISBN 9780643108028

This nursing story tells of the struggle to achieve local access to tertiary nursing studies. It is a unique Territory story about the transition of nursing education from hospital to university. This was the last jurisdiction in Australia to achieve tertiary nursing education programs outside hospital schools of nursing. This outline of nurse training and education for Australia’s Northern Territory evolved from the first nurses coming to the remote north in 1874.

From Hospital to University: A Northern Territory nursing story
(Janie) Elizabeth Anne Mason
Published May 2014, Historical Society of the Northern Territory Inc, Darwin, ISBN 9781921576973

Making sense of the perplexing diversity of Europe is a challenging task. How compatible are national identities in Europe? What makes Europe European? What do Europeans have in common?

European National Identities: Elements, Transitions, Conflicts
Edited by Roland Vogt, University of Hong Kong; Wayne Cristaudo, Professor of Politics at Charles Darwin University; and Andreas Leutzsch, University of Hong Kong

These original essays debate two ways of theorizing social life. One way is the integrative or holistic model of thought typified in the writings of Confucius and John Dewey. The other way, the revolutionary tradition, is suspicious of holism and harmony as principles of social thought because harmony is seen as something that can genuinely occur only when a society has rectified deeply ingrained injustice. This volume evaluates the alternative priorities of order and revolt, harmony and spontaneity, in social life.

European National Identities
Edited by Roland Vogt, Wayne Cristaudo, Andreas Leutzsch, 2014

Order & Revolt: Debating the Principles of Eastern & Western Social Thought
Edited by Wayne Cristaudo, Professor of Politics at Charles Darwin University; Heung Wah Wong, Global Creative Industries; and Sun Youzhong, Beijing Foreign Studies University
Published March 2014, Bridge21 Publications, ISBN 9781626430044

This work grounds European national identities within cultural, historical, and political dynamics, which makes the work approachable for many readers, including historians, sociologists and political scientists. In addition, the editors illustrate that national identities continue to be a source of contention and a challenge to political development. This book draws particular attention to identity shifts and conflicts within individual European countries.

Order & Revolt
Edited by Wayne Cristaudo, Professor of Politics at Charles Darwin University; Heung Wah Wong, Global Creative Industries; and Sun Youzhong, Beijing Foreign Studies University
Published March 2014, Bridge21 Publications, ISBN 9781626430044
A young Central Australian is knocking hard on the door of the music industry and he is being heard. Singer/guitarist Michael Lindsey is only 17 years old but already is leaving an impression on the music industry across the length of the Northern Territory.

Michael can lay claim to being one of a few Territorians to have performed solo at BASSINTHEGRASS, the Territory’s largest, loudest and most thumping music festival.

Sandwiched between crowd favourite “Allday” and the high-profile “Justice Crew”, Indie-popster Michael was given 20 minutes to belt out four songs, three of which were his own compositions.

“It was an enjoyable day and a humbling experience and no, I wasn’t nervous on stage; not as nervous as I was at Battle (of the School Bands),” Michael said.

The Vocational Education and Training music graduate was invited to play at BASS after his winning performance in the Battle of the School Bands final. He went to the Battle as a member of the band “Hello Jenny”, but fortuitously was asked by organisers to perform as a soloist also.

Michael, ever-grateful that he has the gift of playing by ear, said he took an interest in piano, guitar and drums about eight years ago. But it wasn’t until he enrolled in a contemporary music certificate class at CDU’s Alice Springs campus in 2012 that he started to gather some momentum.

“(Music instructor) Cain (Gilmour) divided the class into bands where we all wrote original material for Battle,” he said. “We had been a band for only a week when we went in it. We came last but it was a good experience.”

Michael continued his vocational music studies and did considerably better at Battle the following year, making the final as a soloist.

By this time he had established for himself that music was more than a hobby. “It’s my main priority,” he said. “My dream is to go as far as I can, either producing my own music, or to be involved in sound production and audio engineering.”

Patrick Nelson

NT Major Events/Jarryd Page

It may be a long way to the top if you want to rock ‘n’ roll, but VET music graduate MICHAEL LINDSEY can at least lay claim to being one of a handful of Territorians to have performed solo at BASSINTHEGRASS.

Michael Lindsey at 2014 BASSINTHEGRASS … “My aim is to infect an audience with unstoppable grooves”.

It was an enjoyable day and a humbling experience.
Recognised as among Australia’s most respected artists, John Firth-Smith has been described as a maritime or a landscape painter – an “abstract symbolist” whose work defies convenient categorisation. Relishing in the ambiguity and tension between representation and abstraction – both elements of the natural world – he has developed a singular visual vocabulary, enlisting painterly equivalents to express his experiences of the visible whether “seen through a telescope or a microscope” – each equally valid, each equally real.

Firth-Smith visited Kakadu National Park and Arnhem Land for approximately two weeks in 1981, in the second of a series of artists’ camps held under the auspices of the then Northern Territory Museum of Arts and Sciences. A glance through his sketchbooks for the period indicate that paintings he was undertaking in Sydney and Melbourne before his arrival – notably, the ground-breaking Time series – were still very much on his mind. 

*Dawn at the artists camp* (1981) captures the eerie stillness of the Top End’s savannah scrub, punctuated by man-made structures and temporary fixtures. Vertical and horizontal elements in the composition, drawn from the landscape or human intervention, intersect or are combined to generate psychological as well as pictorial tension. The pulsating heat of the late dry season and the feeling of deep time conjured by the region’s natural and human antiquity struck a chord, prompting the artist’s observation that “the whole of the Arnhem Land escarpment looks like a didgeridoo sounds … it’s obscure, abstract and it sort of buzzes”.

Firth-Smith has exhibited extensively in Australia and abroad since the mid-1960s and has been awarded several significant public and private art commissions, prizes and residencies. His work is represented in major public galleries, corporate and private collections, nationally and internationally.

*Anita Angel*  
Curator, Charles Darwin University Art Collection and Art Gallery

**Dawn at the artists camp / Mosquito nets / Arnhem Land 1981**

**John Firth-Smith**  
Born 1943, Melbourne, Victoria  
*Dawn at the artists camp / Mosquito nets / Arnhem Land 1981*, Gouache and mixed media on Arches paper, 56.5 x 77 cm, Gifted through the CDU Foundation by the artist in memory of his late sister, Margaret Ann Firth-Smith, 2013. Charles Darwin University Art Collection – CDU2587. Image © the artist
A graduate of the National Art School in East Sydney, Neridah Stockley relocated to the Northern Territory in 2001, initially to Darwin and then to Alice Springs – her “base camp” from which she has made extensive painting expeditions for more than a decade. Her commitment to painting landscape en plein air, a genre rarely broached in such a pure, unselfconscious way by non-Indigenous artists residing in the region, is predominantly on a small-scale, challenging the overriding assumption that a “big country” requires “big pictures” – or for that matter, big stories.

Known affectionately as the “Clarice Beckett” of Alice Springs, Stockley has ventured beyond Central Australia in recent years, seeking a refresher from the Centre and new landscapes at extreme ends of the continent and inland: at Falmouth, Wardlaw Point and King Island (Tasmania), the Pilbara and Fremantle (Western Australia), and Newcastle and Hill End (NSW).

The Falmouth series was Stockley’s first coastal painting and drawing session since art school. She created more than 40 oil paintings on board, depicting various locations from distinct vantage points.

Having spent her youth in the Blue Mountains (NSW), Stockley was no stranger to moody landscapes and cold weather in Tasmania. She finds such places “hold a place within me”. Although the terrain she encountered was “vastly different to Central Australia in colour and light, the forms (land-based) and spaces (ocean) were not dissimilar”. Reminiscent of William Westall’s early 19th Century coastline sketches, North of Falmouth (2007) examines formal and structural relationships between cloud and sky, with only the slightest suggestion of land. It is also a lyrical and peaceful passage of painting, reflecting a quiet moment of personal concentration and creative solitude.

Neridah Stockley: a retrospective, featuring an extensive body of paintings, drawings, collages and prints, many of which are drawn from the University Art Collection, will be held at the CDU Art Gallery between 13 November 2014 and 20 February 2015.

Neridah Stockley
Born 1973, Dubbo, NSW
North of Falmouth 2007
Oil on board
20 x 60 cm
Image © the artist.

Anita Angel
Curator, Charles Darwin University Art Collection and Art Gallery
The old man takes his son to the bush: "Come with me, watch and listen ... I'll show you how to hunt the right way. I'll show you the right place to hunt, too. Be careful how you walk, the sound of the leaves will scare the animals. Once we have speared a Djanda (goanna), I'll show you the right place to sit and cook. I'll show you how to cut it and cook it the right way. Don't forget these things I teach you. The old people taught them to us, and you should teach them to your children."

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32 ORIGINS 2 / 2014