

**THE TOM FARRELL
INSTITUTE**
FOR THE ENVIRONMENT



FACULTY OF SCIENCE
THE UNIVERSITY OF NEWCASTLE

ANNUAL REPORT 2017

The Tom Farrell Institute for the Environment



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

Vision:

To champion regional solutions for a sustainable future within the University and the wider community.

Mission:

- Be a centre of excellence in environmental research and its application
- Build University and community partnerships to meet the environmental challenges of the future
- Advance the development and application of environmental knowledge
- Integrate cultural, social and economic values into environmental solutions

The Tom Farrell Institute for the Environment (TFI) is a multidisciplinary organisation which is well placed within the University of Newcastle to engage with Australia's leading professionals involved in the broader environmental fields. Since its establishment in 2006, the TFI has steadily grown and its outreach extends throughout Australia and Internationally.

About Us

The Tom Farrell Institute for the Environment is led by Prof Tim Roberts and staffed by a team of experienced environmental sustainability researchers, teachers and communicators.

As an advocate for sustainable solutions, often to complex problems entrenched in vexed and unsustainable practices, we are in a politically neutral but powerful position to innovate new paths to a resource efficient and environmentally sustainable future.

Significant contributions include:

The conception, initiation and launching of the **Hunter Valley Electric Vehicle Festival** (HVEVF) to engage the Hunter in capturing the electro-mobility opportunity. The HVEVF has been a significant annual event of the region since its initiation in 2011 and is the premier event for the Hunter on the National Science Week calendar and addresses the need for policy, industry and skills development as well as community support by delivering three targeted events:

- A clean energy and transport policy workshop to support vision making, strategy development, networking, planning and regional cluster development of renewables
- An electric vehicle show day to showcase Hunter manufacturing and enable the community to experience the growing range of electric transport
- The EV Prize competition

to build interest in STEM through regional skills development and vehicle innovation.

Conservation studies in the Lower Hunter Valley to develop research and education that would deliver sustainable conservation and biodiversity initiatives, ecotourism and sustainable development in the 10,000 hectares of the Donaldson Conservation Trust area and to improve resilience of local plants to the impacts of climate change by development of green corridors that link isolated patches of bushland to core habitat areas - funded by the Donaldson Conservation Trust and the Clean Energy Future Biodiversity Fund, and Caring for our Country Grants totalling in excess of \$4,500,000 AUD.

Delivery of the annual "Best Practice in Ecological Restoration of Mined Lands Conference" in Singleton since 2011.

A range of water and wastewater studies relating to water supply, stormwater runoff and wastewater treatment/reuse, contaminant export, on-site reuse of coal seam gas water and smart-metering water use to determine diurnal water use patterns.

Education for sustainability as a major imbedded program in the curriculum at tertiary, secondary and primary level.

In addition the TFI offers the gateway for business and the community at large to access the research capability of the University of Newcastle at large in matters relating to regional solutions for a sustainable future. World class expertise in climate change, renewable energy, photovoltaics, water, regional planning, and sustainability is available through this gateway.



Director's Report

2017 FROM THE DIRECTOR'S CHAIR

It is now almost 8 years since I was appointed Director of TFI, and each year has been enjoyable, rewarding and busier than the one before. I am blessed with staff who work above and beyond their terms of employment, as well as a huge number of volunteers who support our projects throughout the year. I estimate our Return on Investment over the past 8 years as 217% or 352% depending on the calculation instrument.

We have continued to grow our collaborative partnerships with industry, business, government and the community to promote environmental sustainability in the Hunter region. Dr Steve Lucas continues to lead our research efforts with his wonderful work in water and soil. We are hopeful that our work in China will continue to expand through the partnership with Mr Eric Love of CORE, EC Systems and Starwater.

International links have grown with Professor Jose Martin Duque, a renowned geomorphologist from Spain, spending three months at the TFI and German undergraduate student Korbinian Kraus interning with TFI for five months and working on renewable energy projects. I am looking forward to taking 20 students to Indonesian Borneo in 2018, funded by the New Colombo Plan initiative, to further our collaborations with Universitas Lambung Mangkurat and Mr Didik Triwibowo of Adaro Mining Co Pty Ltd.

Our regular outreach activities, the Mine Rehabilitation Conference and the Hunter Valley Electric Vehicle Festival, were a great success once again with some 220 persons attending the conference in Muswellbrook in March and some 400 schoolchildren participating in the electric vehicle competition in November. A new initiative for 2017, aimed at assisting the LGAs of Newcastle, Cessnock and Lake Macquarie to convert the disused Richmond Vale Rail line to an ecotourism trail, was the publishing of the book "Towards the Richmond Vale Rail Trail and the running of an associated conference "Active Transport - Richmond Vale Rail Trail" attended by 80+ delegates. Naomi Golightly, Rosey Hart and Belinda McNab have really produced a wonderful book that we hope will encourage the millions of dollars needed to bring this project to fruition.

Another new activity for TFI has been the development of a fully online course ENV51000 Environmental Sustainability Explained to be available as a general undergraduate elective across the University from 2018. My grateful thanks to Latha Lewis for her leadership in bringing this project to fruition.

In this year full of satisfying and successful projects, my personal standout was the two weeks on the road taking our Sustainability, Statistics and STEM project to rural and remote communities across NSW

My thanks go particularly to Belinda, Latha, Nigel, Alec and Steve for their dedication and their long hours.

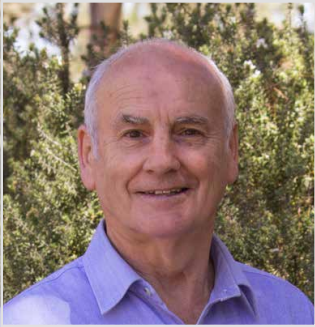
Professor Tim Roberts,
Director



Jose, Tim and Korbi - December 2017



Our Team



Professor Tim Roberts

Director

Professor Tim Roberts is the Director of The Tom Farrell Institute for the Environment. Professor Roberts took up the position of Director, following the completion of his tenure as Dean of Research at JCU Singapore. His previous tenure was as inaugural Dean of the Singapore campus of the University of Newcastle, Australia. In line with his appointment as Conjoint Professor in Biology he continues to be active in research in the laboratory of his long-time collaborator, Associate Professor Hugh Dunstan, at the University of Newcastle. He has published 130 papers. Professor Tim Roberts' researcher profile <http://www.newcastle.edu.au/profile/tim-roberts>



Dr Steven Lucas

Project Director

Steven has over 16 years of experience in sustainable water (and soil) management and has contributed to the development of water systems understanding. Dr Lucas has been involved in analysis of centralised and decentralised water supply systems, wastewater treatment systems and stormwater systems and developing sustainable approaches to sourcing fit-for-purpose water at the point-of-use and integration of available mains water, rainwater, stormwater and wastewater systems, and water quality, irrigation practices and soil/water dynamics. Dr Steven Lucas' researcher profile <http://www.newcastle.edu.au/profile/steven-lucas>



Belinda McNab

Executive Officer

Belinda has been with the TFI since soon after it began in 2006. A highly experienced professional, Belinda is responsible for ensuring the smooth day-to-day running of the Institute and its various functions, including staff supervision, financial management, event management and graphic design. She is a passionate graphic designer and has a number of years' experience using her skills to assist advertising and marketing for various events that the Institute holds. Belinda has extensive experience in event coordination and management, and has been instrumental in bringing our many events such as forums, conferences and large scale shows to fruition.



Nigel Stace

Project Officer

Nigel is a proactive and dynamic member of the Tom Farrell Institute team. Nigel commenced with the Institute in 2014 in the role of events coordinator. He is instrumental in pulling together our two major conferences that are held each year, as well as assisting with our Hunter Valley Electric Vehicle Festival. His passion is to promote environmental sustainability through the uptake of renewable energy in all its guises.



Latha Lewis

Project Officer

Latha is a graduate Chemical Engineer with a Master of Environmental Studies from the University of Newcastle. She has broad work experience in environmental management, having previously worked for Newcastle City Council and the UoN as well as in consultancy. In 2017, Latha has organised the annual Hunter Valley Electric Vehicle Festival (HVEVF), and the stewardship of the development of an undergraduate sustainability course.



Alec Roberts

Project Officer

Alec Roberts is an experienced project manager, community renewable energy advocate and the current chair of CLEANaS (Clean Energy Association of Newcastle and Surrounds). CLEANaS is a not-for-profit community energy association that aims to drive the uptake of renewable energy generation technologies in Newcastle and surrounds through developing projects for community funded renewable energy installations and by running events and initiatives to educate members and the public about the opportunities that exist in participating in clean energy.

Alec commenced with the Tom Farrell Institute for the Environment (TFI) in 2015. In the role of a project officer, Alec develops and manages content on TFI initiatives on environmental sustainability across the TFI media platforms – website, e-newsletter, and social media. Alec also coordinates events, forums and conferences held by the TFI.



Morven Landrigan

Admin Assistant

Morven came to the Tom Farrell Institute for the Environment in August 2017 to join Belinda in the day-to-day running of the institute on a part-time basis. Morven has extensive experience in high-end administration support, event management, accounts, marketing and HR. She recently assisted with the set-up and running of the Electrical Vehicle Festival.



Margaret Williams

Administration Volunteer

The TFI is fortunate to have the volunteer support of Margaret one day a week. Duties include checking information for funding but not applying for the funds. Other duties tend to be variable depending on what is necessary. These duties include photocopying, laminating, making booklets and the general tasks needed in an office. She is certainly our Volunteer of the Year!



Thanh Ba Ho

Research Associate

Thanh Ba (Ba) is a lecturer from Nong Lam University, HCMC, Vietnam. His interest is microbial application for environmental treatment. Ba holds a Master of Applied Science degree from RMIT University (2010), and now is a PhD candidate at the Tom Farrell Institute for the Environment. Ba's research focuses on using *Achaeta* to degrade modified polystyrene in landfill and collect methane as a clean energy source.



Dr Gary Ellem

Conjoint Fellow

Dr Gary Ellem received his PhD in Biophysics from the University of Newcastle, and followed on to lecture in Biology and Ecology. His recent work has focussed on modelling and analysis of the scale and economics of alternative energy, sequestration and land management systems, as well as the development of innovative biomass technologies such as microalgae. His doctoral studies were focused on the biophysics of shell shape in molluscs and he holds IP in a number of fields including radio position finding techniques, the thermal processing of biomass and photobioreactor design for the mass cultivation of microalgae. Dr Gary Ellem's researcher profile <http://www.newcastle.edu.au/profile/gary-ellem>



Peter Stevens

Research Associate

Qualified in Architecture and Environmental Management, with thirty years of experience in design and land management, Peter has recently completed RhD studies in stemming soil erosion and securing water in Australian landscapes using a micro topographic system demonstrated at the UoN between 1992 and 1996.

Peter lectures in the School of Architecture and Built Environment Master's program on Disaster Preparation and Sustainability.



Danielle Lloyd-Prichard

Project Officer

Creative and results-driven engagement professional with an 18-year record of achievement in coordinating, developing, promoting, delivering and evaluating environmental sustainability programs across the Northern Territory and Hunter Region of Australia. Excellent skills in communicating, inspiring and motivating others to implement simple solutions to complex environmental issues using a hands-on, lead by example management style which fosters a culture of teamwork, shared mission and dedication to excellence and the environment.

Danielle Lloyd-Prichard's staff profile

<http://www.newcastle.edu.au/profile/danielle-lloyd-prichard>



Dr Cameron Archer AM

Conjoint Professor

Dr Archer completed a PhD on the environmental history of the Paterson Valley and remains very interested in the history and future of the Hunter region. He has served, and continues to serve on a number of local state and national boards relating to agricultural education, regional development and heritage conservation. Cameron has been a long time member of the Paterson Historical Society.

Cameron played a key role in the creation of the Primary Industries Education Foundation Australia, a national not-for-profit company dedicated to increasing learning about Food and Fibre Production in Australian schools. He is currently chair of the board of that organisation. Cameron played a key role in the creation of the Primary Industries Education Foundation Australia, a national not-for-profit company dedicated to increasing learning about Food and Fibre Production in Australian schools. He is currently chair of the board of that organisation..



Martin Babakian

Consultant Meteorologist / Conjoint Fellow

With 40 years' experience in Meteorology and Project Management in the aviation and marine industry, Martin can rapidly identify problems, formulate tactical plans, initiate change and implement effective strategies in challenging and diverse environments.

Mr Babakian has lectured in Meteorology in the Southern California Safety Institute, USA, as well as in Aviation Meteorology at the University of Newcastle.



Pam O'Sullivan

Consultant Mycologist / Conjoint Fellow

Pam has vast experience and expertise in mycology and is the highly respected author of field guides to East Coast fungi. She brings this expert knowledge to the TFI fungi research projects.

"Generally there is an extreme paucity of knowledge and information about our native fungi - there are many thousands of fungi just in our area alone that have yet to be identified. Species lists are few and far between and not comprehensive. As mycologists retire they are very rarely being replaced. Courses on mycology are very few and limited. Identification and research into species in our region alone has been very patchy or non existent".



Dr Caroline Veldhuizen

Conjoint Senior Lecturer

Caroline spent ten years as an economic researcher and presenter, and also worked on the Hunter Research Foundation's regional wellbeing project. She received her Doctorate in early 2016 after completing a thesis which examines the connections between 'innovation' and social and ecological sustainability. The urgent need to reconsider what we define as innovation emerged from the work. Caroline's ongoing interests concern the connections between democracy, the 'good life' and bringing about positive, sustainability focused change.



Dr Patrice Newell

Conjoint Fellow

Dr Patrice Newell is a recent PhD graduate from the University of Newcastle and her research has been very much aligned with the interests of the Tom Farrell Institute in the area of sustainable land use and the application of biochar soil amelioration and to the problem of global warming. Patrice is working with Peter Stevens on restoring the biological - hydrological sequence of a degraded landslip area to secure deep rooted vegetation cover.



Dr Steven Fleming

Conjoint Associate Professor

- Director of Cycle-Space International Pty. Ltd.
- Author of "Cycle-Space: Architecture and Urban Design in the Age of the Bicycle", Rotterdam: nai010 Publishers, 2012
- Regularly invited to speak about the future bike city.
- Publishing research articles and opinion pieces on bicycle urbanism.
- Whatever I'm working on is my magnum opus.



Gabriele Anderson

Conjoint Fellow

Gabe Anderson has a background working with OzGreen as the lead facilitator of the Great Eastern Ranges Project. He has been instrumental in the development and implementation of the award-winning YouthLEAD and MYRiverR programs. He has a passion for native vegetation and environmental restoration.



Dr Joe Herbertson

Conjoint Professor

Joe Herbertson has over 30 years in industrial research and development and general management experience in Australia, England and Canada. He was the General Manager of Research for BHP Steel and Director of the Central Research Laboratories.



Dr WEJ Paradise

Conjoint Professor

Doctor Wej Paradise has served as the Chair of the Hunter and Central River Catchments Management Authority, Director of Research and CEO of The Hunter Valley Research Foundation, Chairman of the Hunter River Salinity Trading Operations Committee and Hunter River Management Committee. Wej has extensive research experience in economic, business and social issues and has a vision of achieving positive on-ground change and a devotion to innovation in natural resource management.

Events

CIFAL Australia - From Paris to Canberra – Towards sustainable Carbon Markets in Australia – Guest Speaker (February 2017)

Seminar and Discussions with Fungi expert Dr. Roy Halling – Attendance (March 2017)

Public Lecture with Dr Mitchell Thomashow: How to Create a Sustainable Future

14/03/2017 - <http://www.tomfarrellinstitute.org/news/public-lecture-with-dr-mitchell-thomashow-how-to-create-a-sustainable-future>

UON Landcare Campus Day

23/03/2017 - <http://www.tomfarrellinstitute.org/news/uon-landcare-campus-day>

The 7th Annual Best Practice Ecological Rehabilitation of Mined Lands Conference (2017) (Mine Rehab Conference)

29/03/2017-31/03/2017 - <http://www.tomfarrellinstitute.org/2017-mine-rehab-conference.html>

AusIMM – The Minerals Conference - Guest Speaker (April 2017)

Newcastle Forum for Science - Science Not Silence

20/04/2017 - <http://www.tomfarrellinstitute.org/news/newcastle-forum-for-science-science-not-silence>

Carbonisor by Lignum Industria – Braidwood – Guest Speaker (April 2017)

Greenweek – University of Newcastle – Attendance (May 2017)

Landcare Super Saturday in Newcastle (Fungi workshop)

13/05/17 - <http://www.tomfarrellinstitute.org/news/landcare-super-saturday-in-newcastle>

Newcastle Wetland Connection - Project Completion Seminar

7/06/17 - <http://www.tomfarrellinstitute.org/news/newcastle-wetland-connection-project-completion-seminar>

Soils Revisited: The Thin Brown Line is getting thinner....where to now? Seminar by Dr Steven Lucas

8/06/17 - <http://www.tomfarrellinstitute.org/news/soils-revisitedthe-thin-brown-line-is-getting-thinnerwhere-to-now>

Green Drinks – hosted by TFI (June 2017)

Johns Hopkins University Visit - 17/06/17

Fungi, the Forgotten Heroes of Australia's Forests. Seminar by Prof Jim Trappe

30/06/17 - <http://www.tomfarrellinstitute.org/news/fungi-the-forgotten-heroes-of-australias-forests>

Regent Honeyeater Project – Great Eastern Ranges (workshop and planting day)

19/07/17 - <http://www.tomfarrellinstitute.org/news/a-conservation-recipe>

“Achieving 100% renewable electricity at your workplace”. Workshop by Alec Roberts and Nigel Stace at Students of Sustainability 2017 Conference

3/07/17 - <http://www.tomfarrellinstitute.org/uon-100-renewable.html>

CLIMATE WARS by Mark Butler - Book Launch

1/08/17 - <http://www.tomfarrellinstitute.org/news/climate-wars-by-mark-butler-book-launch>

Visit from Professor Mei Bai, Chinese Academy of Social Sciences

11/08/17 - <http://www.tomfarrellinstitute.org/news/visit-from-professor-mei-bai-chinese-academy-of-social-sciences>

Sustainability meets Statistics and STEM Research Project in Western NSW

6/08/17-17/08/17 - <http://www.tomfarrellinstitute.org/news/sustainability-meets-statistics-and-stem>

Rethinking Cement Book Launch

18/08/17 - <http://www.tomfarrellinstitute.org/news/rethinking-cement-book-launch>

Hunter Science Festival

20/08/17 - <http://www.tomfarrellinstitute.org/news/hunter-science-festival>



Newcastle Walking and Cycling Festival

3/09/17 - <http://www.tomfarrellinstitute.org/news/newcastle-walking-and-cycling-festival>

Hunter Valley Fl in Schools Regional Finals (Hunter STEM Festival)

5/09/17 - <http://www.tomfarrellinstitute.org/news/hunter-valley-fl-in-schools-regional-finals>

“Towards the Richmond Vale Rail Trail” Book Launch

27/09/17 - <http://www.tomfarrellinstitute.org/news/towards-the-richmond-vale-rail-trail-book-launch>

Active Transport: The Richmond Vale Rail Trail Conference

27/09/17 - <http://www.tomfarrellinstitute.org/news/active-transport-the-richmond-vale-rail-trail-conference>

AAEE NSW Conference - 27/09/17 – 29/09/17

AusIMM – The Minerals Institute “Incorporation of Environmental design into Mine and Closure Planning” - (October 2017)

All-Energy 2017 Exhibition and Conference

11/10/17-12/10/17 - <http://www.tomfarrellinstitute.org/news/all-energy-2017-exhibition-and-conference>

Waste Expo Australia

11/10/17-12/10/17 - <http://www.tomfarrellinstitute.org/news/waste-expo-australia>

Sustaining our Country: Sustainable development through Indigenous knowledge’s & practices

18/10/17 - <http://www.tomfarrellinstitute.org/news/sustaining-our-country-sustainable-development-through-indigenous-knowledges-practices>

BZE Zero Carbon Communities (Hunter Councils Workshop)

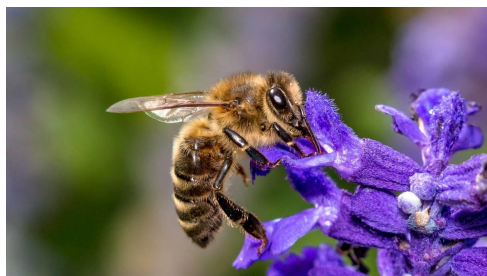
30/10/17 - <http://www.tomfarrellinstitute.org/news/bze-zero-carbon-communities>

Mangoola Mine Rehabilitation - 2/11/17

Electric Vehicle Festival – hosted by TFI (November 2017)

HERALD What honey can tell us

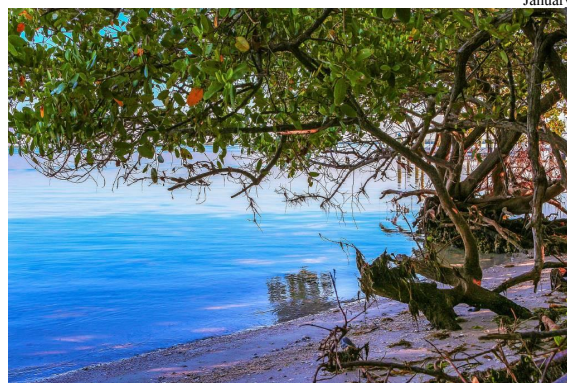
6th November 2017



Winnie the Pooh said, “The only reason for being a bee is to make honey. And the only reason for making honey is so I can eat it”, but indeed in the wider scheme of things most of our food depends on the pollination services that the worker bees offer to us as they buzz

HERALD Wetlands are not wasteland

January 21 2018



Publications: - Newcastle Herald

Tim Roberts has published 50 articles in 2017, and a total of 192 articles in the Newcastle Herald since 2014

www.tomfarrellinstitute.org/news



Awards

- Newcastle Wetlands Connections –
 - ~ Habitat Restoration
 - ~ Community Engagement
 - ~ Indigenous Engagement
- 2017 Faculty Awards – Sustainability meets Statistics and STEM – Tim Roberts

Committees

- Lower Hunter Community Advisory Group, Hunter Local Land Services
- University Committee for Environmental Sustainability
- Hunter-Great Eastern Ranges Executive Committee
- NCC Environmental Advisory Committee
- Our Green Corridor Incorporated
- Selection Committee: City of Newcastle Australia Day Awards
- Columnist for Newcastle Herald, weekly since April 2014
- International Centre for Balanced Land Use Advisory Board

CONGRATULATIONS TO ROSANNE HART

Recipient of the Landcare Scholarship awarded
First Class Honors!



2017 Recipient of the Landcare Scholarship Chloe Goldsmith





Other News/Publications

- CANBERRA MATTERS: Rail trail will create wonderful opportunities - Cessnock Advertiser
- Richmond Vale Rail Line Tops Active Transport Conference – NBN News 27 Sep 2017
- Community Energy, where communities take renewable energy into their own hands - The Hunter Business Review 18 Sep 2017 – Alec Roberts
- University of Newcastle researchers test supplement to aid muscle recovery - Newcastle Herald 25 Jul 2017
- Sustaining planet's future - Newcastle Herald 5 Jun 2017
- R. H. Dunstan, D. L. Sparkes, B. J. Dascombe, C. J. Stevens, G. R. Murphy, M. M. Macdonald, J. Gottfries, C.-G. Gottfries, and T. K. Roberts. "Sex differences in amino acids lost via sweating could lead to differential susceptibilities to disturbances in nitrogen balance and collagen turnover". *Amino Acids* (2017) 49: 1337. doi:10.1007/s00726-017-2431-4
- UON 100% Renewable Energy 2020. Following the production of the Feasibility Study "UON 100% Renewable Energy 2020" and presentation of "Moving your campus Smartly to 100% renewable energy" at the ACTS Conference in 2016, a workshop entitled "Achieving 100% renewable electricity at your workplace" was conducted at the Students of Sustainability 2017 Conference held at Tighes Hill TAFE, Newcastle on 3 July 2017.
- Dr S A Lucas AUTHORS AUTHORS AUTHORS "On-site wastewater systems: Investigating dynamics and diurnal patterns impacting on the performance of mound systems". *Journal of Environmental and Analytical Toxicology* (accepted 2017).



TFI Welcomes International Researchers and Students

In 2017, the Institute welcomed two additions to our valued team. Jose Martin Duque, from Complutense University of Madrid, and intern Korbi Kraus, joined us in September.



Activities of **José F. Martín Duque**, Complutense University of Madrid, at the Tom Farrell Institute

1. Research activities with

Greg Hancock and Garry Willgoose

Visitor researcher at the TFI from September 1st to November 30th, 2017. Topic: development of geomorphic mine rehabilitation best practise in the Hunter Valley coal mines

2. Lectures (as part of the TFI staff)
 - Lecture on Sustainable Mining at Singleton at the Mine Rehabilitation and Planning Seminar held in Singleton on Wednesday 11th, October, 2017, organized by AusIMM.
 - Lecture on Sustainable Mining at the GCER Seminar, to be held on November 24th.

3. Papers

During my stay at the TFI, I have written two scientific papers, in which the TFI will appear in my affiliation. They are almost ready to be submitted.

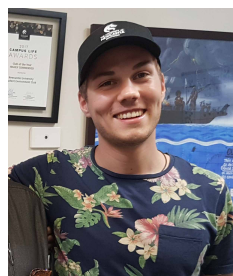
Hancock, G., Martín Duque, J.F., Willgoose, G. Interwoven capabilities of geomorphic design software and landscape modelling for best mine rehabilitation – the Drayton mine example (New South Wales, Australia). To be submitted to the Journal Environmental Modelling and Software - <https://www.journals.elsevier.com/environmental-modelling-and-software>

www.journals.elsevier.com/environmental-modelling-and-software

Hancock, G., Martín Duque, J.F., Willgoose, G. Mining rehabilitation – ensuring long-term sustainable landscape systems applying geomorphic principles. To be submitted to the Journal Ecological Engineering - <https://www.journals.elsevier.com/ecological-engineering>

4. Other

- I held two meetings with the Officers of the Department of Planning & Environment of the New South Wales Government, with the aim to assist in the development of guidelines on best practise in mine rehabilitation in New South Wales
- Collaboration in the organization of the Mine Rehabilitation 2018 Conference.
- Fostering an agreement between the Tom Farrell Institute and one of the best Masters in the world on Ecological Restoration - http://www3.uah.es/master_rest_eco/, for future collaboration.



Korbinian Kraus, a student from Germany joined us around the same time, here is a report on his stay so far....

I joined the Tom Farrell Institute at the beginning of August as an intern. My degree requires me to work for half a year and gain some work experience. The first two weeks were packed as we went on a road trip to Dubbo, Broken

Hill, Mildura, Griffith and Orange in order to bring STEM education into remote places. We have seen the most amazing places and beautiful countryside.

After returning to Newcastle the TFI started to collaborate with the Newcastle City Council. I began to work four days a week for the City Council and one day a week for the Tom Farrell Institute. My work at the Council was to assess potential photovoltaic panels on Council owned buildings and create a proposal for viable systems. The one day at the Tom Farrell Institute I was writing on a paper, which explains all the basic solar characteristics in an understandable manner. After reading that paper people should have the required knowledge to discuss about solar energy. Furthermore I introduced a tool called ATA Sunulator in the paper. This mapping tool enables homeowners to make their own solar feasibility study.

Besides office work I have been to a lot of meetings and events. We inspected Mangoola coal mine with a group of geomorphologists. This Open Cut mine is a role model for successful mine rehabilitation in the Hunter Valley. However, the highlight was definitely the visit of the All Energy Conference in Melbourne. Alec, Nigel and I attended Australia's biggest Conference about renewable energies and recent market developments. The two days were very informative and we made some very good contacts with people from the industry.

Furthermore we visited Blackbutt Reserve, the Australian Reptile Park and spent a weekend at Stockton beach. So there is always something on at the Tom Farrell Institute and it is literally impossible to get bored.

Learning the role fungi have in the functioning of the forest

Between 28th June – 7th July Dr Jim Trappe, from Oregon State University and Jamie Ure visited the University of Newcastle's Tom Farrell Institute to share their great knowledge and love of all things mycology.. Jim is one of the world's leading experts on hypogeous (truffle and truffle-like) fungi. During their stay, they achieved the following:

- Tour of Hunter Regional Botanic Gardens Herbarium and field work
- Four days of fieldwork, identification and documentation sessions at Wangat Lodge in Barrington Tops region
- Over 60 collections made during this trip, including rare species and species new to science.

Jim was very pleased with his visit to the area and the interest in mycology locally. He has indicated that he would be happy to become a conjoint with the Tom Farrell Institute for the Environment, and continue the great work uncovering and identifying more local treasures.

During Jim's stay and trip to Wangat Lodge, a very rare truffle has been unearthed and now identified.

Over four days the group of avid truffle seekers, searched for fungi in the beech forest on Wangat Trig Road, in rainforest and eucalypt forest along Jerusalem Creek, along the Williams River in the National Park, and close to the Lodge in the Wangat Wildlife Refuge.

At one point they were stopped in the Chichester State Forest near Bush Mill Road when a child in the group, Tess Brumfield, aged 10, from Newcastle, found what she thought was a round-topped toadstool.

When the specimen was shown to Dr Trappe he identified it as a very rare kind of truffle relative in the genus *Cribbea* with compressed gills hidden inside the cap.

He said he had seen this kind of fungus only once before, in Southern Queensland.

Tess's find will be added to the mycological collection at the NSW State Herbarium at Orange.





Report on Mycological Activities for 2017

1. 22nd February – 16th March
Dr Roy Halling, Curator of Mycology, Institute of Systematic Botany, New York Botanical Garden. One of the world's leading experts on Boletaceae. This trip included:
 - ~ Fieldwork and identification sessions with local groups in the Sydney Region, Blue Mountains, Allyn River, Tilligerry, the Watagans SF & NP, Norah Heads, North Wyrabalong NP, Strickland SF, Brisbane Water NP, Palm Grove and Ourimbah.
 - ~ Over 70 collections made and documented during this trip, including a number of rare and species new to science.
 - ~ Presentations at and tour of the Hunter Regional Botanic Gardens Herbarium
 - ~ Presentation University of Newcastle (UON) Callaghan campus for the Tom Farrell Institute for the Environment.
 - ~ Four day workshop/ laboratory session at UON Ourimbah campus
 - ~ Roy also said he would be happy to become a conjoint with the Tom Farrell Institute for the Environment
2. 28th/29th April Land for Wildlife Forum Queanbeyan – On 29th gave a brief overview of the importance of fungi in the environment. Discussions with participants during field trips. A number of people want to follow up next fungal season.
3. 27th May National Parks and Wildlife Service "Biodiversity Protection Seminar" a talk on Fungal diversity, form and function, including mycorrhizal, saprotrophic and parasitic fungi. This presentation was for volunteers from the Royal National Park and community. Held at Audley Dance Hall in the Royal National Park. Very well recieved
4. 28th June – 7th July Dr Jim Trappe, from Oregon State University and his nephew Jamie Ure. Jim is one of the world's leading experts on hypogeous (truffle and truffle-like) fungi
 - ~ Tour of Hunter Regional Botanic Gardens Herbarium and field work
 - ~ Four days of fieldwork, identification and documentation sessions at Wangat Lodge in Barrington Tops region
 - ~ Over 60 collections made during this trip, including rare species and species new to science.
- ~ Jim is happy to become a conjoint with the Tom Farrell Institute for the Environment
5. 29th July Braidwood Truffle Festival. Part of the team for 'Meet the Mycologist' with Dr Jim Trappe and Dr Rytas Vilgalys from R. Vilgalys laboratory Duke University, a molecular specialist, that discussed mycological matters and answered questions with the general public
6. 7th August KU Ourimbah Preschool – Introducing pre-schoolers to fungi – two sessions one each for c 20 3-4 year olds and one for 20 4-5 year olds. The day was low key with fun, entertaining activities and a couple of mini fungi farms from Peter Wenzel, these were left with the classes for a couple of weeks. This enabled children to see the fungi grow from almost nothing to fully mature fruiting bodies. Great enthusiasm.
7. 8th October Presentation at Bredbo for the Upper Murrumbidgee Landcare. Requests for ongoing assistance for this group and other interested people from around the region from



Projected Activities for 2018

- south of Cooma to north of Canberra. A successful day attended by c 30 people.
8. 16th – 18th November Bioblitz at Sutton Reserve Bateau Bay. A large number of students from nearby primary and secondary schools. Identification of species and discussion of their role in the environment. Tree planting and transects for monitoring changes pre and post burns.
 9. Assistance from Rytas Vilgalys on sampling mushrooms for genome sequencing and population genomics.
 10. 16th December Tour of Department of Primary Industry's Fungal Herbarium at Orange (DAR). To be led by Dr Jordan Bailey, Leader Pant Pathology Curation Biosecurity Collection.
 11. Mentoring/co-supervising of PhD candidate, Maree Elliott, from the School of Creative Industries, University of Newcastle.
- 9th March Presentation Australian Plant society, Central Coast Branch
 - 23rd March Wingicarrabie Shire Land for Wildlife day
 - 14/15 April National Parks Association fungi walk at Peachtree Park, across the river from Lister Park at the Allyn River headwaters. Part of a campaign to have upper Allyn and Paterson Rivers declared part of the Barrington Tops National Park
 - Discussions with Rytas Vilgaris
 - Establish a web site for fungi of NSW
 - Working on a book on the Boletes of the Central Coast and Hunter region, assisted by Roy Hallings
 - Early work on a book on the truffles of this region. Discussions with Jim Trappe
 - Tentative plans for visit from Jim Trappe
 - Bioblitz 2018 – date to be determined
 - Request for a presentation in Canberra - Peter Wenzel seeking funding
 - In discussions regarding presenting at one of the Australian Plant Societies quarterly gatherings in 2018



Dungog Chronicle

March 13 2017 - 1:06PM

US Scientist finds unidentified fungi in Chichester State Forest

Dr Roy Halling with the unidentified fungi.

A US scientist wants the NSW State Government to incorporate parts of the Chichester State Forest into the Barrington Tops National Park.

Dr Roy Halling, the Curator of Mycology at the New York Botanical Garden was in the Dungog region recently, surveying a wide variety of fungi. Dr Halling is a leading expert on macro fungi, particularly boletes.

“I was staggered to learn that the Upper Allyn river forest and great swathes of Antarctic Beech forest near Barraga swamp are not afforded the same level of protection as similar areas in the national park,” Dr Halling said.

“If the NSW State Government had a masterpiece painting, it wouldn’t conserve just a bit of it and forget about the rest. Why is so much of what is one of the world’s most amazing biological hotspots being relegated to NSW State forest?”

Dr Halling was a guest at the Upper Allyn Lister Village, and toured the Chichester State Forest along the upper Allyn River, and adjacent to Barraga Swamp.

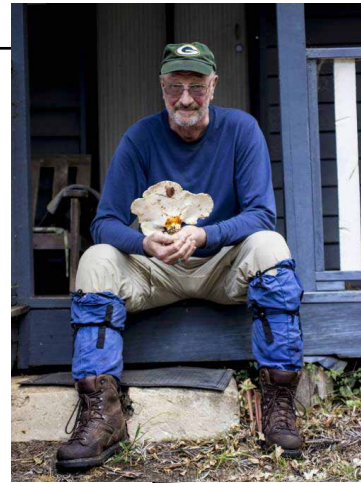
He said he understood the area had been subject to extreme temperatures and drought, but he was able to find fungi he had never seen before.

“Fungi are vitally important to trees, as they are the means by which trees can get enough nutrients to grow,” Dr Halling said.

He explained that fungi often act as root extensions, allowing the transference of nutrients not only from a greater area of ground, but even from tree to tree.

“I found an extremely rare type of fungus which might be undescribed in the literature. I don’t know how this fungus interacts with the trees around it, and yet it is growing in an unprotected State Forest.”

He described the scenery as “simply breathtaking.”



HEPPP Project Report:

Early Engagement – Tertiary Success: Sustainability meets Statistics and STEM

August 6-17, 2017

Prof Tim Roberts and A/Prof Peter Howley have taken Sustainability, Statistics and STEM to rural and remote communities, travelling the NSW countryside for a fortnight visiting schools and running teacher workshops, as part of their equity-oriented HEPPP grant project “Early Engagement – Tertiary Success: Sustainability meets Statistics and STEM” <http://www.tomfarrellinstitute.org/sustainability-meets-statistics-and-stem.html> (won along with A/Prof Maree Gruppetta, Wollotuka Institute).



TEACHER WORKSHOP - BROKEN HILL

The project aimed to engage students and teachers with innovative and industry-oriented practice, and assist those in low SES, remote and rural regions connect with, aspire to, and succeed in, higher education.

The team delivered activities targeted at addressing barriers to higher education success, namely an understanding of science and statistics.

Electric vehicles, mushroom kits, designing clinical trials for new medicines, modelling human features in forensic anthropology and reflections about pizza were but some of the activities and discussions within this

cross-disciplinary outreach in environmental sustainability (renewable energies), statistics and STEM.



TEACHER WORKSHOP BROKEN HILL

Research questionnaires were used (before and after our engagement) to assess changes in teachers' and students' interests, attitudes, knowledge and aspirations towards higher education and self-perceived ability to make sustainability changes in their schools and local areas.

The research team visited Dubbo, Broken Hill, Griffith and Orange, and promoted the National Schools Poster Competition www.ssaipostercomp.info, Electric Vehicles www.hunterevfestival.net/mini-ev-prize-team-entry-2017.html and other aspects of sustainability as examples of potential investigations for student projects, along with the importance of coding, engineering and technology, the Science and Engineering Challenge and the UoN's Ma-Morley scholarships www.newcastle.edu.au/scholarships/ma-and-morley-scholarship-program/about.

The Road Trip engaged 85 teachers from 16 schools and 408 students from 8 schools



RIGHT AND FAR RIGHT TEACHER WORKSHOP – GRIFFITH

across 4 NSW locations. It was an exhilarating experience.

Teachers and students enthusiastically learnt about the practice of Statistics and Environmental Sustainability, bringing industry engagement to schools and informing schools about the practical application and careers in Statistics and Environmental Sustainability.

The team was able to share pathways to University; teachers and students participated in developing their own investigations, engaging with and even building their own electric vehicles from kits.

Joining Tim and Peter were Latha Lewis (Project Officer, Tom Farrell Institute) and Korbinian Kraus – an undergraduate student (Management of Renewable Energy) from Germany who arrived in Australia two days before heading off on the roadshow, as part of his work-integrated learning experience. Korbinian is visiting the TFI as an intern for one semester – a period of six months, and will be working with Tim, Peter and the Tom Farrell Team.

The research surrounding this work will inform STEM Education and Outreach at state and national levels.



TEACHER WORKSHOP - BROKEN HILL





YANCO AGRICULTURAL HIGH SCHOOL - GRIFFITH



SCHOOL WORKSHOP WADE
HIGH SCHOOL - GRIFFITH



SCHOOL WORKSHOP WADE
HIGH SCHOOL - GRIFFITH



SCHOOL WORKSHOP YANCO AGRICULTURAL
HIGH SCHOOL - GRIFFITH



SCHOOL WORKSHOP MULLION CREEK
PUBLIC SCHOOL - ORANGE



GREETINGS FROM MULLION CREEK
PUBLIC SCHOOL - ORANGE



SCHOOL WORKSHOP MULLION CREEK
PUBLIC SCHOOL - ORANGE



TEACHER WORKSHOP - DUBBO



TEACHER WORKSHOP - DUBBO



TEACHER WORKSHOP - DUBBO



TEACHER WORKSHOP - DUBBO



SCHOOL WORKSHOP DUBBO COLLEGE
SOUTH CAMPUS - DUBBO

The Hunter Valley Electric Vehicle Festival 2017

The Hunter Valley Electric Vehicle Festival is a community outreach program that receives sponsorships from local industries and assists the community to raise awareness on environmental issues and provide solutions that would benefit the local and global community. This is a vital role that The Tom Farrell Institute plays in the greater scheme of the University's community engagement fabric. This project doubles up as a STEM outreach program for primary and high school students. This project plants the seed for future career pathways for the next generation and engages with primary aged students to make an impression that learning STEM – (Science, Technology, Engineering and Mathematics) as cross-curricula problem based activity is fun and engaging.

This project created a platform for the TFI to collaborate with the School of Mathematical and Physical Sciences/Statistics and the National Poster competition to deliver a HEPP Project to Teachers and Students in remote and very remote locations in the Dubbo, Broken Hill, Griffith and Orange regions. The project team highlighted to these communities the Ma Morley Scholarships. One of the four values of the Ma Morley Scholarship is Environmental sustainability and biodiversity conservation which is the founding value of the Tom Farrell Institute for the Environment and of the University as outlined in the University's Strategic Plan – NEW Futures 2016-2025 – Building a Sustainable Future.

Hunter Valley
Electric Vehicle
Festival

Regional Development Australia
HUNTER

me program
An initiative of RDA Hunter

EV Prize
Newcastle Kart Racing Club - Cameron Park
29 November 2017

Mini EV Prize
Newcastle Kart Racing Club - Cameron Park
29 November 2017

Hunter Valley Electric Vehicle Festival is back! **EV Prize** and **Mini EV Prize** will again be held at **Newcastle Kart Racing Club** at Cameron Park, on **Wednesday 29 November 2017**. Registrations are now open via the website!

www.hunterevfestival.net

Hunter Valley
Electric Vehicle
Festival

HUNTER INNOVATION AND SCIENCE HUB
NSW GOVERNMENT
LAKE MACQUARIE CITY COUNCIL
MARS
Kite Magic
LAUGHING MIND
children's core Environmental Systems





2017 Research Project Summary

Williamstown Contamination Investigation

Use of PFOS/PFOA as fire-fighting foams at the Williamstown RAAF base over the past decades has resulted in contamination of surface and ground waters. The TFI became involved in November 2015 when water and soil sampling was undertaken with the Williamstown and Surrounds Residents Action Group. A result indicated a “plume” of PFOS/PFOA leading away from the RAAF base, and was detected in drainage channels as far as Fern Bay. Recent testing (June 2017) resulted in significant levels of PFOS/PFOA being found in several major drains. The test kit developed by CRC CARE was used to analyse groundwater samples and drain samples at three private properties outside of the red zone. All tests indicated an elevated presence of PFOS.

The City of Newcastle Council (TCoN)

Key information for stormwater managers includes measuring/estimating discharge volumes and determining the source of contaminant loads from within existing developed catchments; as these provide insight into future planning such as costing and targeting specific works areas. However, rainfall event-based monitoring and analysis is lacking as storm events often occur outside of normal TCoN working hours and results in a sparse dataset for many drainage catchments. During this project, runoff has been sampled during rain events along Ironbark Creek (Wallsend) and Wentworth Creek (Fletcher) to determine typical pollutants present during storm flows. Inflow and outflows from several constructed bioretention devices (such as rain gardens

and sand filters) have also been undertaken to investigate pollutant removal performance of these devices under storm conditions. Different devices produced a range of results during different events and will be further investigated during 2018.

Newcastle Wetland Connection (NWC)

The restoration of riparian zones in disturbed areas was the main focus of this project over the past 4 years. The TFI undertook water sampling at all sites to characterise water quality during rain events and to investigate hydrological connections between creeks and wetlands; both water level and water quality. Over 420 water samples were obtained from 23 sites over the four-year period. 15 volunteers (TFI and Wetland Care), ENV53008 students and UoN staff were involved in the Water Quality study. The project commenced in June 2013 and finished in June 2017 with outstanding results with respect to riparian restoration and weed removal programs.

CORE/Starwater Projects

Over the past 3 years the TFI has been conducting lab and field investigations into the use of recycled organic and mineral matter for use as reactive filter media (RFM), particularly for use in bioretention devices, landscaping scenarios, soil remediation, and water treatment; including the pollutant removal characteristics of the materials. After materials were characterised, and based on desirable pH and electrical conductivity (EC), several Design Mixes were created. Column tests were also carried out on these Design Mixes to determine leaching and pollutant removal

rates under constant-head conditions. Results indicate that significant nutrient and metal removal rates can be achieved using filter media primarily consisting of recycled organic matter and fine sand; and leaching of nutrients from these filter media is minimal. Plans are in place to construct a bioretention device on the UoN campus to reduce turbidity during rain events and potential faecal contamination of the adjacent creek during infrequent sewer leaks.

Upper Hunter Waterkeepers Alliance - Landscape Recovery and Landslip Erosion Control

The TFI is currently monitoring water level in the creek and changes in survey levels on a property at Gundy NSW. A +30 year-old landslip is slowly being re-vegetated and landuse practises, such as grazing, have been reduced to stabilise the slope. “Bio-scale” and “Natural Sequence Farming” has been applied to the site in conjunction with Soil Conservation Society approaches to reduce the potential for landslips in the catchment.

Ravensworth Coal Mine - Bee Project

A number of hives were placed in both natural and re-vegetated areas around Ravensworth Mine. The 2016/17 season was a poor one, and few bees survived the extreme conditions. However, pollen assemblages were created from analysis of honey and propolis from the hives and indicated that most species (including planted species) were found in the samples.

EK-RFM research with University of Technology Sydney (UTS)

This project is in conjunction with researchers from UTS and is investigating the use of electro-kinetics (EK) and reactive filter media (RFM) to remove heavy metals from contaminated soils. A mild charge is applied to a cathode/anode, in saturated soil, that moves metals towards one end of the reaction vessel. RFM is placed between the cathode/anode and preferentially adsorbs metals within the organic complex.

Summer Hill Waste Management Centre – Pond Water Treatment and Beneficial Reuse

The project will focus on the treatment of pond water using an electro-coagulation approach with our industry partner (Inovin). A major benefit of the project is that the dam will be drawn-down to a relatively lower level on many occasions which will decrease discharge of turbid water to Wentworth Creek for all but the largest rainfall events. This is an important issue for Council due to increased residential development downstream of the Summer Hill Waste Management Centre; which flows through Wentworth Creek and eventually into Hexham Swamp (RAMSAR wetland).

Port Stephens Council (PSC)

The project is investigating the efficacy of infiltration trenches in an urban subdivision, where the traditional “pit and pipe” system was replaced with pervious infiltration trenches that direct surface runoff to groundwater. Assessment of efficacy involves the monitoring of ground water

levels within the catchment and water levels in a Gross Pollutant Trap (GPT) before, during and after rainfall. Results indicate that the infiltration trenches have significantly reduced the peak discharge and peak volume of storms up to a 1 in 50 average recurrence interval.

AGL Gloucester Irrigation Program

The AGL coal seam gas (CSG) exploration and irrigation program at Gloucester has not been in operation for over 12 months. During the irrigation program, over 55 ML of blended CSG production water was applied to pasture (lucerne, sorghum oats and triticale). Even though irrigation has ceased, the Environmental Protection Agency (EPA) require a final soil report and the TFI, as support to EMM Consulting, provided field assistance, soil data interpretation and review of the Final Report (to be submitted in January 2018).

SUEZ Leachate Study

The TFI undertook a series of laboratory experiments to compare treated leachate (from landfill) to commercially available “liquid fertilisers”. A large composting facility in south west Sydney treats their leachate before discharging to the Sydney Water sewerage system. The leachate is created by the recirculation of water in the composting process, where green waste is formed into windrows and sprayed with water, which percolates through the compost and back to a leachate pond. The leachate is of known quality, as it is periodically tested before and after treatment for a range of parameters to achieve Environmental Protection

Agency (EPA) objectives, before being discharged to the sewer. However, the treated leachate is of reasonably good quality compared to other industrial waters, and this study aims to compare commercially available liquid organic fertilisers to the treated leachate waters and provide a desk-top evaluation for potential reuse options.

Coal Dissolution Testing for MARPOL requirements

Marine pollution from ocean-going ships is an international issue regulated by the International Maritime Organisation (IMO). The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. Recent changes to MARPOL Annex V (garbage from ships) include management of cargo residues of solid bulk cargoes and as a result, coal is currently being considered as an Environmentally Hazardous Substance (EHS) by the IMO. In this study, EHS testing was undertaken on 56 Australian coal types using protocols contained in the United Nations Globally Harmonised System for Classification and Labelling of Chemicals (UN GHS Annex 10 in [1]). The major and minor trace elements of concern found in coal that could potentially be leached into seawater and impact upon marine environments included As, B, Cd, Cr, Cu, Pb, Hg, Se, Ni, Mo, V and Zn. Results from the EHS tests were compared to the Queensland Water Quality Guidelines which indicated that leached trace elements from the tested coal types pose negligible or no threat to marine systems.

Successful Completion of \$1.6million Newcastle Wetlands Connection Project

The Tom Farrell Institute was one of the project partners at the University of Newcastle Conservation Volunteers Australia was the lead organisation. The University's bushland campus covers 41 ha in the centre of the project area, with several creeks and a constructed wetland. TFI facilitated a student Landcare

group to support project activities on and off campus and ran two engagement events on campus each year, including guided educational walks. TFI ran a water quality monitoring program throughout the project and also delivered 2 Water Sensitive Urban Design (WSUD) training workshops, which resulted in a concept design for Allowah Reserve demonstrating best-practice in WSUD. Dr. Steven Lucas undertook 6-monthly water sampling at 22 sites. The reports will be used to understanding changes in the target waterways as a result of project activities, and will also be used by land management agencies to understand water quality in the sub-catchment.



Newcastle Wetland Connections
Caring for Urban Waterways in Newcastle

Newcastle Wetland Connections was a 4-year project to restore the upstream catchment of the Hunter Wetlands Centre, a Ramsar-listed wetland of international significance. The project improved the health and biodiversity of urban waterways and coastal wetlands in the city of Newcastle.

Community engagement


Summary

Conservation Volunteers Australia hosted a community activity program to promote understanding of the threats facing our urban waterways and what residents can do to protect nature habitat.

Participants included the local community residents, university and school students, Landcare volunteers and the industrial premises adjacent to the wetlands.

Key statistics

- 47 community events
- 1,104 individuals attended
- 696 people returned to attend several events
- 1,800 participants in total
- 5 school outreach activities

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Indigenous engagement


Summary

The project incorporated activities to build the capacity of Indigenous Australians to manage natural resources, and share their stewardship ethic and knowledge with the wider community.

An Indigenous lead team coordinated a program of cultural competency training workshops, cultural events, and a training and employment program for Indigenous Australians. The project team participated in nationally celebrated days such as NAIDOC Day 2016.

Key statistics

- 160 Indigenous participants attended cultural events
- Two Indigenous Australians completed a traineeship and graduated with Certificate 2 in Conservation and Land Management
- An Indigenous Land Management workshop in 2015 engaged over 34 participants from Local Aboriginal Land Councils, community groups and environmental organisations

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Habitat Restoration

Summary

From 2013-17 our project team undertook on-ground restoration works at 14 urban waterway sites in the Ironbark Creek catchment, which flows into the Hunter Estuary Wetlands Ramsar site.

These sites have a variety of vegetation and habitat types including urban creeks, drainage lines and wetlands. The objective was to reduce sedimentation and improve the water quality of waterways within the catchment, prior to reaching the Ramsar-listed wetlands. Restoration works also improved and expanded habitat for a diversity of wildlife, including threatened and migratory species.

Key statistics

- Controlled weeds across 15 hectares, targeting weeds of national significance
- Planted over 50,000 native trees, shrubs and groundcovers from over 130 species
- Installed 12 erosion control structures stabilising 0.6 hectares within creeks and drainage lines
- Held two Water Sensitive Urban Design workshops resulting in a project to naturalise Allowah Reserve




This project was coordinated by WetlandCare Australia (now merged with Conservation Volunteers Australia) through funding from the Australian Government

Program partners



The Active Transport Conference and Launch of the “Towards the Richmond Vale Rail Trail” Book, September 2017

Our conference aim was to address the local benefits of an active transport system, and identify areas such as the Richmond Vale Rail Trail that can be converted into a highly utilised system and corridor for active transport.

The RVRT concept offers walkers, naturalists, bird lovers and conservation students a wonderful chance to observe the scenic beauty and extraordinary ecological diversity along the trail, from the tidal swamps through to the rugged forests of the Sugarloaf Ranges, contained within the Stockrington State Conservation Area. The RVRT offers a unique opportunity to all, as the gentle gradients along much of the rail trail make it suitable for most fitness and ability levels.

The United Nations Sustainable Development Goals (SDG's) and Pathways to Sustainability (P2S) underpin the themes of this conference by bringing our attention to the benefits such a corridor could bring locally, such as Education and Conservation Studies, Health and Wellbeing, an intuitive trail with links to our Smart City, Recreation as well as the economic benefits through Tourism.

Thanks to the generous support of the Donaldson Conservation Trust, we were able to bring together an impressive array of speakers who entertained us with their knowledge and views on topics associated with the development of the Richmond Vale Rail Trail as an active transport corridor. The conference was well attended, by approximately 80 interested parties.

Following the conference, we hosted the book launch for the highly anticipated Richmond Vale Rail Trail book. After approximately 12 months of planning and preparing, the book

has finally been published. A luxurious book, which includes many beautiful images and research from the area, as well as anecdotes from locals and supporters of the preservation and development of this important conservation area.





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