

NEWS

Highlights of 2015

February 2016

Dr Dirk Roux becomes adjunct professor

The title of NMMU Adjunct Professor in the Science Faculty was recently conferred on Dr Dirk Roux, a stalwart Research Associate in the university's Sustainability Research Unit and Senior Scientist in South African National Parks.



SRU awarded the NMMU Engagement Excellence Award for 2015

On the 7th of July 2015, the Sustainability Research Unit (SRU) won the NMMU Engagement Excellence Award (Team Award) for 2015.

The award aims to recognise and reward a team that:

- Show evidence of integrating engagement into teaching and learning and research and scholarship
- Make an outstanding contribution to advancing the NMMU's engagement strategic priorities and goals over a sustained period of time
- Are able to provide examples of best practice in the field of engagement

We are very proud of this achievement and are excited to uphold this level of community engagement.



Community Hacking Day a huge success

On the 1st of October 2015, over 90 people attended a community hacking day to aid in the ecological restoration of an area next to Whites Road, Wilderness. The event was organised by the SRU and the Kaaimans-to-Touw Eco-restoration forum.



Programme on Ecosystem Change and Society (PECS) Conference

The Programme on Ecosystem Change and Society conference, held between the 3rd and 5th November 2015, gathered scientists from various disciplines, from within and beyond the PECS network, who shared cutting-edge research insights on social-ecological dynamics in the Anthropocene. The conference engaged and involved multiple stakeholders concerned with sustainable development, interested in developing new solutions and strategies. The SRU contributed to the success of the conference through various presentations and dialogues, including:

- **Reconnecting people and ecosystems in fragmented social-ecological landscapes followed by an outline of the SRU's strategies to achieve this;**
- **Multi-scale adaptations to climate change to climate change and social-ecological sustainability in coastal areas;**
- **Cross-scale connections and feedbacks in social-ecological systems.**

The practicalities of engaging with society in doing social-ecological systems research

Just before the first ever Programme on Ecosystem Change and Society PECS conference (www.pecs2015.org) this past November in Stellenbosch, SAPECS organised a pre-conference learning event for early career social-ecological systems researchers; coordinated and facilitated by Christo Fabricius from Nelson Mandela Metropolitan University (NMMU). The topic of the event was "Participatory Action Research in Social-Ecological Systems", and the focus was particularly on discussing the principles and practice of doing this research.

The event was attended by 30 participants from nine countries representing 18 institutions. Participants, mostly Masters and PhD students with a smattering of post-docs came from a healthy mix of disciplinary backgrounds. The programme began late afternoon on Sunday the 1st with a keynote by Christo Fabricius on the role of a dialogue perspective in participatory research, emphasizing the role of taking time to think and listening with fascination. This was followed by group discussions. We ended the day with mingling with a snack and wine to allow space for interactions between participants and with facilitators.



Programme on Ecosystem Change and Society (PECS) Conference

The practicalities of engaging with society in doing social-ecological systems research (continued)

The format for the next day was three 15 minute food-for-thought presentations each followed by an hour of dialogues, a role playing game and discussions in break-out groups. First Maria Tengö, who works at the Stockholm Resilience Centre, presented on the importance and usefulness of multiple evidence and the role of these evidences in participatory action research. This was followed by Dirk Roux from South African National Parks presenting and stressing the need to create space that enables authentic engagement, “third spaces”. Franck de Saint Simon was invited as a practitioner to share his experiences and insights on engagement processes; he told a story about engagement processes for various projects in West Africa and stressed the importance of first understanding the context in which you are working.

The role playing game simulated a public participation meeting in a remote rural area, with ‘researchers’, ‘consultants’, ‘officials’, ‘a politician’ and ‘rural communities’ discussing the pros and cons of building a large dam. Role players came to realize that ‘the community’ consists of diverse interest groups and that there are no simple solutions to society’s challenges. The discussions, which were loosely based on the ‘Knowledge Café’ approach, revolved

around the challenges facing early career researchers related to time management, ethics, expectations created in the engagement process, stakeholder fatigues and the role of feedback to participants to build trust and credibility in research projects. Feedback and active listening motivate participants to answer truthfully without merely giving the ‘right’ answers that researchers want to hear.

The group discussed changes in our attitudes and approaches in order to improve outcomes of participatory research, and made practical suggestions such as funder flexibility, embedding students within long term process-based projects, the value of pilot studies to determine mutual interest between researchers and society, and clarity and honesty about intent. The event created space for lively discussions and possibilities to link up with other existing initiatives. The feedback received from participants was extremely positive, with many commenting on the value of pre-conference get-togethers

to form new and lasting connections.

For some reflections on the event, see this [blog](#) or see the [videos](#) Karen & Jess also embedded in the blog.

The organising committee: Christo Fabricius, Karen Esler Linda Luvuno and Odirilwe Selomane. The event was partly funded by SwedBio.



SRU visits UN Food and Agriculture Organization

SRU Leader advises the UN Food and Agriculture Organization on resilient land use in Lesotho

A resilient system 'bounces back' when former conditions were desirable 'bounces forward' when former conditions were unworkable.

The following principles were identified for resilient farming in Lesotho:

1. Don't put all your eggs in one basket
 - Systems with many different components (e.g. types of farming outputs, income sources, sources of knowledge) are generally more resilient than systems with few components.
 - Redundancy is like 'insurance' in a system - some components make up for the loss or failure of others
2. Build connections
 - Good connections promote the easy flow of energy, water, resources, in natural systems In human systems, good connections promote trust, capital and transfer of knowledge
 - Land degradation breaks the connections
 - Social connectedness promotes innovation
3. Check, adapt & respond
 - Feedbacks are 'push' and 'pull' forces that can either reinforce (positive feedback) or dampen (negative feedback) change
4. Look at the entire system
5. Encourage learning
6. Participation
7. Joint decision making at all levels
8. Be patient. Try and try again



Welcome to our new Research Associate:

Peter Novellie

Current Projects:

- An evaluation of the legislation governing South Africa's national parks: does it accord with the principles of adaptive governance?

Research interests:

Adaptive management and adaptive governance of social-ecological systems; the impact of grazing on biodiversity and spatial heterogeneity.

SRU visits UN Food and Agriculture Organization

Resilience dialogue to brainstorm solution for farming communities

Various organisations assembled to discuss some identified farming issues within Lesotho. The process focused on identifying the challenges, reaching a common vision, discovering new possibilities by working together and prioritizing which specific actions to be taken right away which could potentially make a big difference to the Lesotho farming community.



Welcome to our new Research Associate:

Herve Fritz

Current Projects:

- Coupling behavioral and community ecology to understand the role of trophic relationships in the functioning of conservation orientated socio-ecological systems

Research interests:

Wildlife management; the interface between theoretical and applied sciences; social-ecological system dynamics.



Ongoing projects

Motivation in ecosystem stewardship and the resilience of biodiversity commons: The case of South Africa's Garden Route — by Lisa Heider

My project aims to explore the role of different motivations in ecosystem stewardship and their influence on the social and ecological requirements that build the resilience of a biodiversity commons. I target individual members of the public who show a committed and pro-active concern for biodiversity and ecological support systems in the Garden Route. I am using a mixed-method research approach, including photo-voice, in-depth interviews, informal communication, observations and empirical literature reviews in order to (1) stimulate individual's reflection of their sense of place and sources of motivation for stewardship, (2) investigate the social-ecological consequences of their behaviours and (3) estimate the impact on resilience.



Progress: Thus far 30 research participants (bottom right), 750 photographs collected.

Preliminary findings:

- Intentions and motivations in stewardship are driven by different identities which emerge along a gradient of scale (ie. from narrow definition of self, to a predominantly social or ecological identity, to a cohesive social-ecological identity and to a holistic spiritual or biospheric identity)
- The impact of stewardship on the social-ecological community manifests on a temporal scale (short-term versus long-term) and on a contextual scale (narrow versus holistic), and seems to be explained by the different identities ecosystem stewards hold.
- Intentions and motivations for holistic and long-term impacts on the social-ecological community enhance the resilience of the biodiversity commons, and are mainly driven by holistic spiritual and biospheric identities. Intentions and motivations for narrow and short-term impacts constrain resilience and are driven by narrow self-definitions of stewards.

Highlights:

- Field trips with 'underestimated ecosystem stewards': Subsistence fishing ladies from Sedgfield, Rastafarians from Knysna and the leader of the Griqua Kranshoek community.
- In-depth case study of Precious Tree Project in Wilderness Heights (pictured above).



Ongoing projects

Prioritising Management of Invasive Tree Species in Wetlands in the Garden Route National Park, South Africa — by Rosie Gerolemou

The aim is to determine where to prioritise management of invasive plants in the wetlands of the Garden Route National Park. Wetlands have been identified as a priority area as they are important for ecosystem services, including freshwater supply (which is very important in a water scarce country such as South Africa).

What I'm doing:

- I've identified invasive species of concern through literature
- I'm using satellite images of the Garden Route to identify land use (eg. plantation, wetlands, urban) and where the clusters of invasive plants are in order to show where the heavily invaded wetlands are
- I'm using spatial planning software and criteria for prioritising invasive plants and areas (from existing prioritisation work) to show the areas to be prioritized
- I will input the areas where the invasive plants and wetlands are, amongst other considerations (eg. other land uses). The software will then determine where the management priority for clearing invasive plants should be.



Congratulations to our Master's students who completed their dissertations:



The management of Chacma baboons and humans in a peri-urban environment: A case study from Nelson Mandela Metropolitan University's George Campus

Peet Botes

Plant survival in relation to microcatchments in a Nama-Karoo riparian ecosystem restoration trial

Andrew Jackson

Absorptive capacity for responding to environmental change: an assessment of three public-sector agencies


Samantha Mc Culloch

Media and communication influences on farmer's views of water conservation in Garden Route, South Africa

Thea Buckle

Academic publications

- Barendse J, Francis J. 2015. Towards a standard nomenclature for seafood species to promote more sustainable seafood trade in South Africa. *Marine Policy* 53: 180-187.
- Bohensky, E., Evans, L., Anderies, M., Biggs, D. and Fabricius, C. 2015. Principle 4: foster complex adaptive systems thinking. In: *Principles for Enhancing the Resilience of Ecosystem Services*, edited by R. Biggs, M Schulter and M Schoon. Cambridge University Press. <http://www.cambridge.org/za/academic/subjects/life-sciences/natural-resource-management-agriculture-horticulture-and/principles-building-resilience-sustaining-ecosystem-services-social-ecological-systems>
- Cundill, G., D. J. Roux and J. N. Parker. 2015. Nurturing communities of practice for transdisciplinary research. *Ecology and Society* 20 (2): 22. [online] URL: <http://www.ecologyandsociety.org/vol20/iss2/art22/>
- Fabricius, C., and B. Currie. 2015. Adaptive Co-Management. Pages 147–179 in C. R. Allen and A. S. Garmestani, editors. *Adaptive Management of Social-Ecological Systems*. Springer Netherlands. http://dx.doi.org/10.1007/978-94-017-9682-8_9
- Fabricius, C., and T. Pereira. 2015. Community Biodiversity Inventories as Entry Points for Local Ecosystem Stewardship in a South African Communal Area. *Society & Natural Resources*:1–13. <http://dx.doi.org/10.1080/08941920.2015.1014591>
- Nel, J. L., Roux, D. J., Driver, A., Hill, L., Maherry, A. C., Snaddon, K., Petersen, C. R., Smith-Adao, L. B., Van Deventer, H. and Reyers, B. (2015), Knowledge co-production and boundary work to promote implementation of conservation plans. *Conservation Biology*. [doi: 10.1111/cobi.12560](https://doi.org/10.1111/cobi.12560)
- Phair, N., Barendse, J., Smith, M.K.S. & von der Heyden, S. 2015. Molecular analysis confirms genetically distinct populations of two indigenous estuarine fish species in isolated coastal lake: implications for the management of introduced ichthyofauna. *Conservation Genetics* [doi:10.1007/s10592-015-0701-9](https://doi.org/10.1007/s10592-015-0701-9)
- Pittock, J., Finlayson, M., Arthington, A. H., Roux, D., Matthews, J. H., Biggs, H., Harrison, I., Blom, E., Flitcroft, R., Froend, R., Hermoso, V., Junk, W., Kumar, R., Linke, S., Nel, J., Nunes da Cunha, C., Pattnaik, A., Pollard, S., Rast, W., Thieme, M., Turak, E., Turpie, J., van Niekerk, L., Willems, D. and Viers, J. (2015) 'Managing freshwater, river, wetland and estuarine protected areas', in G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds) *Protected Area Governance and Management*, pp. 569–608, ANU Press, Canberra.
- Roux DJ, Nel JL, Fisher, R-M and Barendse J. 2015. Top-down conservation targets and bottom-up management action: Creating complementary feedbacks for freshwater conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* DOI: 10.1002/aqc.2577
- Roux D.J., Kingsford, R.T., McCool S.F., McGeoch M.A. and Foxcroft L.C. 2015. The Role and Value of Conservation Agency Research. *Environmental Management*. [doi:10.1007/s00267-015-0473-5](https://doi.org/10.1007/s00267-015-0473-5)



We want to thank all of our stakeholders and partners for the successes we've had. We look forward to an equally exciting 2016!