



# DEPARTMENT OF ENVIRONMENTAL SCIENCE

RHODES UNIVERSITY

**ANNUAL REVIEW: 2008**

*“Ten years of Environmental Science at Rhodes”*

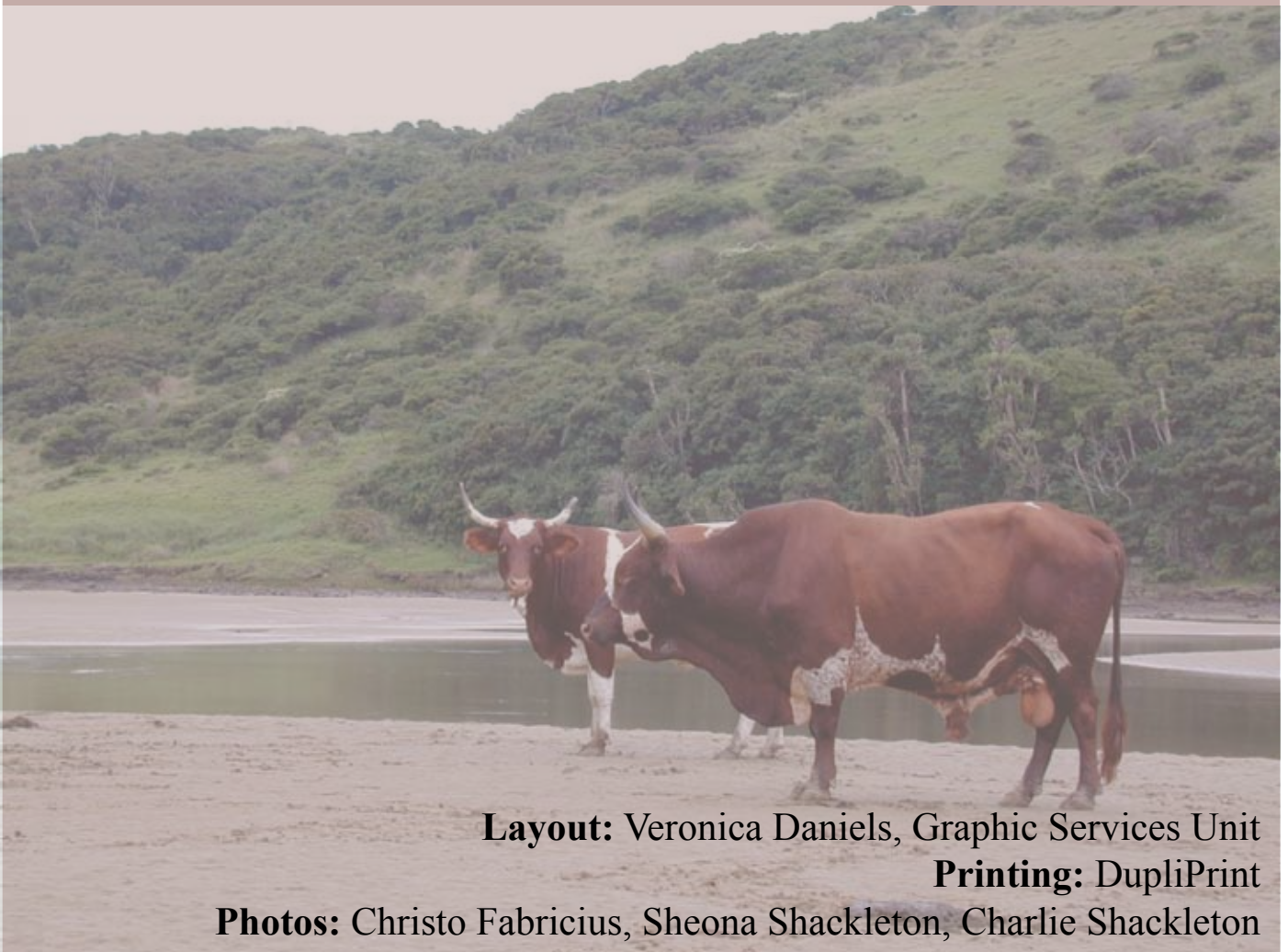


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## **1. TEN YEARS OF ENVIRONMENTAL SCIENCE AT RHODES**

A couple of years ago the Dept of Environmental Science Rhodes initiated an annual review report. This review highlighted notable events during each year, recognised graduates, reported on the general activities of the department, and presented a list of research outputs. It took only a couple of editions for the annual review to become a mainstay document for communicating the successes and outcomes of the department to existing and prospective partners, including government agencies, NGOs, other research units, prospective postgraduates, visiting academics and funders.

The review for 2008 is a special milestone, in that it celebrates 10 years of Environmental Science at Rhodes. In 1996, two far-sighted individuals, Dr Ted Avis (Botany dept) and Professor Kate Rowntree (Geography dept), proposed the initiation of an environmental science offering at Rhodes University. It took time to sell the idea to colleagues and steer it through the necessary committee structures and approval systems within Rhodes and the national Department of Education. But they stuck with it, and in 1998, a new staff member was recruited to bring the idea to final fruition. Initially it was launched as an inter-departmental programme, but earned independent department status after a review in 2002.

That staff member was Professor Christo Fabricius, who, through his vision and tenacity, initiated and nurtured the development of a department that is now the envy of other much older and larger environmental science departments at other universities. Launched at a time of severe funding constraints for universities in South Africa (which resulted in a lot of internal competition), it was a remarkable feat that Christo Fabricius managed to develop a programme and identity that has stood the test of time, and found a niche at Rhodes and in South and southern Africa. It was not an easy task, with battles for every desk, chair, office, staff position and curriculum approval. But that forged the foundation for a focussed and strategically aligned unit that thrives today.

The department has grown from those early days

of one staff member and a handful of students in 1998/1999. It now has four permanent academic staff and two support staff. It has approximately 100 undergraduate students, and in the region of two dozen postgraduates. The first PhD was graduated only in 2006, since then a further three have crossed the podium (two in 2009), with a further three likely to graduate in 2010. Annual research income averages R2 – 3 million (up to R6 million), and research output per capita places the Department of Environmental Science amongst the top departments at Rhodes, which itself is usually the leading university in South Africa in terms of outputs per staff member. Many publications and projects are undertaken with staff of other departments at Rhodes, presenting a clear signal regarding the cross-disciplinary nature of the discipline and the value-addition Environmental Science brings to Rhodes as a whole. The vision of ten years ago is being fully realised.

## **2. NOTABLE HAPPENINGS DURING THE YEAR**

Considering that Rhodes University celebrated its centenary in 2004, Environmental Science is still definitely the new kid on the block – but attaining double figures was still a reason to reflect and celebrate. Consequently, staff and postgraduates designed and implemented a number traditional academic offerings and less traditional events to mark the occasion, in which undergraduates participated whenever they were able. It was these celebrations that were certainly the highlights of 2008, along with the recruitment of two new academic staff, Professor Fred Ellery and Dr Sheona Shackleton, as well as a new administrator, Ms Jenfred Engelbrecht.

Following the move of Christo Fabricius in late 2007 to become campus director of the Saasveld campus of Nelson Mandela Metropolitan University, Environmental Science at Rhodes was lucky to attract Professor Fred Ellery as a replacement (see Section 3). Fred started in March 2008. A few months later, the department advertised a new post, for a fourth academic staff member. Considerable interest was shown from several sub-Saharan countries, with Dr Sheona Shackleton finally being invited to join the department, starting in July. A warm welcome to them both.

In celebrating our 10<sup>th</sup> anniversary, the department arranged a number of talks and events. Individual guest lectures were offered by several eminent scientists, including two from the USA (see Section 4), one each from France and the United Kingdom, and three South African practitioners. Towards the end of the year, a top level panel discussion was held with four of South African leaders in the discipline (Bob Scholes (CSIR), Rachel Wynberg (UCT), Coleen Vogel (Wits) and Tanya Abrahamse (SANBI)), who were tasked with (i) reflecting on the previous ten years of environmental science in general, (ii) the likely priority challenges for the next ten years, and (iii) what skills and knowledge areas must universities imbue in their undergraduates and postgraduates to be best able to meet the future challenges. The audience of approximately 280 people were entertained by some deep insights and then responses to some challenging questions from the audience at the end. The outcome of this discussion has been written up and submitted for publication.

Of a less academic nature, the department held what is now an annual relay race between Grahamstown and Port Alfred. However, this year we had five teams (each of ten runners), who were also tasked with raising sponsorship from the run, the proceeds of which would be donated to a local environmental NGO. Well done to the yellow team in winning the relay largely as a consequence of the truly phenomenal speed of Fred Snow. At the end of the race we had raised just short of R1 500. Nominations were invited for worthy local environmental programmes or charities. Five nominations were received, and the lucky winner was drawn from a hat. The Millennium Tree Planting Programme was extremely pleased to receive the funds, which they allocated to their new indigenous tree nursery at Vukani.

This year saw the department host a schools environmental quiz for Grade 11 learners. The entire project was designed and

hosted by the Environmental Science Honours class. The end result surpassed all expectations. The quiz evening ran like clockwork, and was keenly contested by six Grahamstown schools. A few more showed interest but were either unable to make the final date evening or were reluctant because they were uncertain of what it would actually entail. Teams had to answer a range of different questions, ranging from true and false, identifying animal sounds, environmental general knowledge (including who is the national Minister of Environmental Affairs, the answer to which no team knew – makes one think doesn't it!), and so on. With R8,500 in prize money up for grabs (donated by the university Vice-Chancellor, Dr Badat) the competition was fierce, but finally the team from Victoria Girls High won the day, followed by Kingswood College and then Graeme College in third place. The tension was relieved by an excellent finger supper, and all schools promised to compete again in 2009. We have successfully secured a private sector sponsor for the next three years.

In the same spirit the department set up its own waste recycling depot. Thanks to the efforts of Kathy Cassidy, as the part-time technician in the department, we now have drums available to collect glass, tins and plastic. This facility was then

### **Vision of the Department of Environmental Science**

*To generate and develop knowledge, skills and understanding of complex coupled human-environment systems in a globalising and changing world through excellence in learning, research, community engagement and practise*

The associated **goals** are to:

- Produce graduates capable of addressing complex environmental challenges, particularly in Africa
- Execute innovative and relevant research at the multiple interfaces between economic, social and biological systems.
- Communicate research results for maximum impact at multiple scales from policy development to community action.
- Collaborate with stakeholders, practitioners and communities to promote uptake of environmental best practice and DES knowledge and products.
- Achieve recognition as leaders in the environmental science discipline.
- Advance environmental science as an academic discipline through knowledge development.

advertised to all other departments located near to Environmental Science on St Peters Campus. The facility has run extremely efficiently.

Being our tenth year, we felt it was also a strategic opportunity to reassess the Vision statement of the department. Consequently a two day workshop was held late in the year. This was also a useful mechanism to bring on board the new staff and share insights and values as to what the department stands for and where it wishes to position itself. There were changes to the wording of the previous Vision, but the central focus values and ethos remain. The new one is provided here.

A significant development was the launch of a new joint Honours programme with the Dept of Botany in Biodiversity and Conservation. Whilst marketing of the new course started a bit late for many Honours applications, we still attracted seven Honours students to the course, two of whom were external applicants (one from Namibia and one from Free State). Candidates will have to complete three compulsory modules, an optional module selected from the other Honours level offerings in either of the two departments, and a research project. The compulsory modules include Strategic conservation assessment, Biodiversity, rarity & endemism, and GIS. The research project should be on a topic relevant to biodiversity conservation. Applicants to the course must have a Bachelor of Science degree with a major subject in a biological or environmental discipline. We look forward to seeing the course grow from strength to strength.

On the research front, the departmental output was a bit down on previous years, but compensated for by the graduation of a sizeable batch of postgraduates. Overall, we produced 12 journal publications, five book chapters, 19 conference presentations and several reports. This remains a significant output for such a small department.

The departmental newsletter produced by postgraduates continued for its second year. Whilst intended mainly for internal consumption, it is available on the website and has attracted commentary from several outsiders seeking information on the department. Prospective new postgraduates comment on how it portrays a welcoming and friendly face of the department

rather than just academic details.

### 3. STAFFING AND STAFF NEWS

Amongst all the ten year anniversary events that was a lot of movement on the staffing front. Firstly, the department administrator, Ms Tory Wernberg, left for greener pastures early in the year. This was an immense loss, because Tory had displayed such high levels of efficiency and loyalty that the bar has been raised for anyone to follow. Ms Jenfred Engelbrecht took over in mid year, but resigned before the end. Ms Zelda Odendaal then joined in a casual capacity whilst the post was advertised for a permanent replacement.

#### Staff of the Dept of Environmental Science - 2008

**Prof. Charlie Shackleton**

*Professor & Head*

**Prof. Fred Ellery**

*Assoc. Prof (as of 1 March)*

**Dr James Gambiza**

*Lecturer*

**Dr Sheona Shackleton**

*Lecturer (as of 1 July)*

**Ms Kathy Cassidy**

*Technician (part-time)*

**Ms Tory Wernberg**

*Administrator (left 28 Feb)*

**Ms Jenfred Engelbrecht**

*Administrator 1 May – 30 Nov*

**Ms Zelda Odendaal**

*temp (as of 1 October)*

During the first semester, Dr James Gambiza was on sabbatical. Dr Andrew Knight stood in as a replacement, taking on a lot of teaching and actively engaging in the 10<sup>th</sup> anniversary activities, and even writing a couple of papers under the department banner. It would have been a hard road without him. We wish him well at his new job at Stellenbosch University. At the same time Dr Sheona Shackleton (then a Research Associate in the department) provided temporary teaching relief during the first semester as the

department was understaffed with James Gambiza on sabbatical and the new replacement for Prof Fabricius not yet in place.

As mentioned above Professor Fred Ellery joined the department in March. Fred is a well-known and highly regarded expert on wetland systems in southern Africa. He has supervised dozens of postgraduates and has over 40 peer-reviewed publications to his name. He moved from the University of KwaZulu-Natal and is looking forward to getting his hands dirty, or perhaps his feet wet, in the numerous wetlands of the Eastern Cape.

Dr Sheona Shackleton started on 1 July at the same time that James Gambiza returned from his sabbatical. Sheona is well published in the international literature on issues relating to rural livelihoods and natural resource use. She had been a Research Associate in the department for a number of years, contributing to the department although not on the payroll. We wish her well in securing a permanent position at the university and the stability that will bring to her research and teaching endeavours.

Dr James Gambiza continued with his Masters in Education thesis throughout his sabbatical and the second half of the year also. But it is now completed and with the examiners – congratulations to James on his perseverance. His up-to-date reading and

forward to his augural lecture in the not too distant future.

Ms Kathy Cassidy took on the unenviable task of managing a job and part-time studies. She enrolled for an Honours in Environmental Science and will spread it over two years. Good luck Kathy.

In early 2008, an internationally peer-reviewed paper by Professor Fabricius and one of his postgraduates, Nigel Chalmers, was awarded the Ralf Yorque Memorial Prize for being the most novel paper published in 2007 in the journal *Ecology and Society* that integrates different streams of science to assess fundamental questions in the ecological, political, and social foundations for sustainable social-ecological systems (full details are: Chalmers, N., and C. Fabricius. 2007. Expert and generalist local knowledge about land-cover change on South Africa's Wild Coast: can local ecological knowledge add value to science? *Ecology and Society* 12(1): 10. [online] URL:<http://www.ecologyandsociety.org/vol12/iss1/art10/>

### **Associates of the Dept of Environmental Science**

#### **Dr Ted Avis**

*Visiting Fellow  
Director: Coastal & Environ. Services*

#### **Dr Andrew Knight**

*Research Associate  
Stellenbosch University*

insights into educational methods and literature keep all members of staff on their toes, and prompts us to constantly re-evaluate our teaching and appraisal approaches.

Professor Charlie Shackleton was promoted to full Professor as of the start of the year. We look



hosted a four day international policy dialogue workshop at Rhodes in late January on Indigenous Vegetables and Urban Agriculture in sub-Saharan Africa. This was the grand finale of the two year, EU funded networking programme on the same topic ([www.indigenoveg.org](http://www.indigenoveg.org)). The primary aims of the workshop to (i) Summarise and highlight the key scientific messages from the science of the previous 18 months, (ii) Translate the scientific messages into policy lessons and language, and (iii) Deliver the policy lessons to a selection of invited policy makers. During the first day, approximately 50 scientists from eight African and five European countries debated and distilled the key scientific issues. On the second day, assisted by several policy resource facilitators, the scientific messages were ‘translated’ into policy recommendations. On the third day almost 30 policy makers from seven African countries joined the forum – this included city mayors, ministry officials, heads of national research institutes and town planners. They listened to and then debated the relevance and practicality of the proposed the policy lessons. A plan of action was subsequently developed for each country within the context of existing policy initiatives. The last day was a field trip within the region facilitated by the local NGO, Umthathi ([www.Umthathi.co.za](http://www.Umthathi.co.za)). The whole meeting was generously sponsored by the European Union and the Centre for Technical Cooperation in Agriculture (CTA). The next outcome of the IndigenoVeg project is an edited book on indigenous vegetables in peri-urban and urban agriculture, due out in mid 2009.

Guest lectures by visitors to the department included:

- Professor Kevin McSweeney from the University of Wisconsin (Madison, USA) on “The University of Wisconsin Arboretum: the history and emerging challenges for restoration ecology in an urban setting”.
- Dr Bob Smith from the Durrell Institute of Conservation & Ecology at the University of Kent (Canterbury, UK) on “Marketing and conservation: how to lose friends and influence people”.
- Ms Britt Coles from the University of Florida (Florida, USA) on “A woman’s work is never done: a spatio-temporal comparison of the wild harvesting movements of women and girls on the Wild Coast”.

- Professor James Blignaut from the University of Pretoria, “Growing markets, growing people”.
- Dr Bruno Walther from GEOS (Montpellier, France) on “The global earth observation system for biodiversity”.
- Mr Jonathan Stewart from the Dept of Environmental Affairs in the Western Cape provincial government on “Waste management and environmental challenges in the Western Cape”.
- Mr Renier van der Merwe from the town planning department of Makana municipality on “Municipal planning processes and the environment”.



#### 4.1. Postgraduates who graduated in 2008

The year gone by was another productive one for the department. At the graduation ceremony in March 2008, we congratulated one PhD, four Masters and 11 Honours graduates from the department, each one having undertaken a major research project appropriate to the level of the degree awarded (Table 1).

Overall, there was an impressive array of topics covered, ranging from mapping asbestos health risks, to green space ratios in small towns, water demand in expanding coastal settlements, and rural livelihoods, and conservation.

**Table 1: Award of postgraduate degrees in Environmental Science during 2008**

Kelly Scheepers	PhD	Harvesting strategies of fuelwood and kraalwood harvesters at Machibi: identifying the driving factors and feedbacks
Dylan McGarry	M.Sc	The impact of HIV/AIDS on rural children's reliance on wild foods within the Eastern Cape, South Africa.
Collins Nsor	M.Sc	Plant community distribution and diversity, and threats to vegetation of the Kromme River peat basins, Eastern Cape province, South Africa
Jim Saunders	M.Sc	Economic valuation of the flow of the Knysna river: a method for valuation
Melita Steele	M.Sc	Natural resource harvesting and disturbance in communal lands: assessing the role of local ecological knowledge, dependency and market access
Nangula Amutenya	B.Sc Hons	The benefits of environmental management to tertiary institutions: the case of paper streams at Rhodes University.
Mike Beaumont	BA Hons	Land reform: asking the environmental question of land reform policy in post-apartheid South Africa
Chris Blaine	B.Sc Hons	The benefits of environmental management to tertiary institutions: the case of paper streams at Rhodes University.
Mike Beaumont	BA Hons	Land reform: asking the environmental question of land reform policy in post-apartheid South Africa
Chris Blaine	B.Sc Hons	Assessing levels of Local Ecological Knowledge: challenges and opportunities
Sabrina Chesterman *	B.Sc Hons	Kimberly-Clark South Africa & ISO 14001: costs and benefits
Sandy Collings	B.Sc Hons	Ecological and economic consequences of restoring the Umfolozi flood plain for the support of Lake St Lucia
Lauren Elkington	B.Sc Hons	Identifying the impacts of protected areas in South Africa on the well-being of neighbouring communities; using the Addo Elephant National Park as a case study.
Akeel Hajat	B.Sc Hons	Matching alternative energy systems to the needs of their users: a case study of small-scale solar systems in KwaZulu-Natal.
Inekela Iiyambo	B.Sc Hons	Water demand and supply to Kleinemonde
Michelle Kruger	B.Sc Hons	The effect of increased development on the water quality of the East Kleinemonde Estuary
Keitumetse Padima	B.Sc Hons	The effectiveness of social responsibility projects on people's livelihoods in Machubeni, Eastern Cape

(\* with distinction)

External examiners for these theses were Prof James Blignaut (S. Africa), Prof Johan Colding (Sweden), Prof Guy Cowlshaw (UK), Prof Fred Ellery (S. Africa), Prof Coert Geldenhuys (S. Africa), Prof Timm Hoffman (S. Africa), Prof Uwe Kreuter (USA), Dr Tim Lynam (Australia), Prof Isaac Mapaure (Namibia), Prof Kottapalli Rao (India) and Dr Elin Torell (USA). Acting as an external examiner is largely a labour of love, but we are hugely grateful to them as they are the people who help us set the standards and benchmarks.

Over the last ten years the department has produced 55 Honours graduates, 18 Masters and two PhDs. Given that the first few years there were none, then throughput rates are more than satisfactory.

### 3.2. Where did it take them?

After the arduous but stimulating journey of a PhD or Masters by thesis, where did our recent graduates go after completion of their degree?

- Dr Kelly Scheepers joined the South African Parks as regional ecologist in the Northern Cape.
- Dylan McGarry remained with the department as a research assistant on various projects and is now writing his proposal for PhD studies, which will probably see him branch into environmental education.
- Collins Nsor is currently an ecological consultant and advisor to political parties in Ghana.
- Jim Saunders took some time to relax with his family, but he too is now focussed on pursuing a PhD project on water allocation issues in the Knysna estuary.
- Melita Steele joined an environmental consulting company in Cape Town, and is involved in a lot of EIA work.



### 3.3. New postgraduates starting during 2008

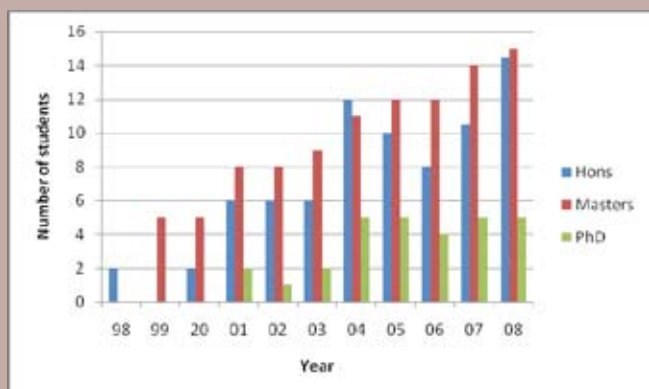
As one group of postgraduates passes out, a new cohort comes on board, hopefully each one engaged in exciting, innovative and relevant

environmental research. We welcomed the following students into the Environmental Science postgraduate team during 2008.

**Table 2: New postgraduates who joined the department during 2008**

Degree	Student	Topic
Masters	Sandy Collings	Restoration of the Umfolozi floodplain
	Sean Earle	Urban agriculture in the Eastern Cape
	Kagiso Mangwale	Assessing carbon stocks in the Matiwane forests on the Wild Coast
	Mercedes Stickler	Valuing local level ecosystems services on the Bathurst commonage and neighbour reserve
Honours in Enviro Science	Zukiswa Kota	Local Perspectives of Priority Plant Species in Subtropical Thicket: Implications for Restoration in the Eastern Cape
	Alice McClure	Assessing the sustainability of hunting concessions in the thicket biome in the Eastern Cape, South Africa
	Emily McGregor	School-based food gardening initiatives: The benefits and constraints associated with school-based food gardening in the Makana and Ndlambe districts
	Caitlin Parker	The use and appreciation of urban green spaces: an example of botanical gardens in South Africa (with C. Ward)
	Aletia Rickerts	Investigating current and potential incomes that can be yielded from harvesting black wattle in two small towns of the Eastern Cape
	Geri Simak	Densification and green space appreciation: a case study of New Redruth, Alberton
	Mwaka Sinchembe	Human impacts on wetland hydrological health and indirect ecosystem services: A case study of the Emthonjeni Fairview spring wetland on the Grahamstown commonage?
	Brendan Turk	A Comparative survey of Sustainability Reporting of listed companies on the South African and other stock exchanges
	Catherine Ward	The use and appreciation of urban green spaces: an example of botanical gardens in South Africa (with C. Parker)
	Dylan Weyer	Informing forest restoration: an appraisal of local knowledge from a community on the Wild Coast of South Africa
Honours in Biodiversity & Conservation		Joclyn Fearon, Amanda Gosling, Dale Hutton, Sandile Mdlalose, Matt Mundy, Loide, Ndumbu and Alexis Olds
Joint Honours with other depts		Kim du Plessis (Geography), Jade Jacobson (Anthropology), Luke McMichael (Law)

Overall, postgraduate numbers remained strong, with 4 – 7 senior postgraduates per staff member, along with 2 - 3 Honours students each.



#### 4.4. Publications

Output of publications by staff and postgraduates was excellent, maintaining the department as one of the most productive at Rhodes in terms of publications produced per staff cost unit. Overall, we produced 12 journal papers, five book chapters, 19 conference presentations, and several reports and policy briefs (see Appendix 1). What is phenomenal is the extent of publication links with other research institutions internationally. There were equally numerous partnerships with South African institutions.

#### 4. COMMUNITY ENGAGEMENT

In the Dept of Environmental Science we boast a strong commitment to community engagement and ethos of community relevant and responsible research. Indeed, a large proportion of our research has a strongly applied dimension and hence the boundaries between research and community engagement are often blurred. But this is embraced in the university's new policy on service-learning. This benefits both student capacity building as well as community development needs. During 2008 staff and/or postgraduate students undertook a number of community engagement activities, both small and large, which are sketched below. Moreover, community benefit is not limited to only the local level. It is important that the policy dimensions of our work are communicated in appropriate fora so that the lessons learned from local-level research are taken up and applied at larger scales (regional, provincial or national).

- Managing and implementing a programme for

restoration of degraded lands at several sites including, the Baviaanskloof MegaReserve, the Addo Elephant National Park, the Greater Fish River Reserve and the Kouga catchment.

- Raising funds via a sponsored relay race and donating them to a local environmental NGO (see Section 1).
- Commissioning and working with a drama company from Cape Town to make an educational video around the impacts of HIV/AIDS on rural children and their use of natural resources.
- Funding of pre-school teacher training for a community crèche in one area in which we are active.
- Donation of building materials for a community garden at the same crèche.
- Working with small-scale entrepreneurs using solar-powered business units in rural KwaZulu-Natal to increase the efficacy of the units and hence the sustainability of their businesses.
- Contributions to the spatial development plans of several towns and villages along the Eastern Cape coast.
- A participatory workshop with farmers and landowners in the western Baviaanskloof around approaches for restoration of wetlands and riparian areas.
- Participating in judging the finals of national ESKOM Science Expo in Pretoria.

Within the scientific community staff participated in a number of workshops and reviewed funding and research proposals for various funding agencies. Dr James Gambiza continued as a member of the Technical Advisory Group of the Baviaanskloof MegaReserve, the Steering Committee of the African Centre of Ecology at Nelson Mandela Metropolitan University, and participates as a member of the national rangeland monitoring committee under the auspices of the Agricultural Research Council. Additionally he was a member of the organising committees for (i) the Thicket Forum held every year, and (ii) the annual symposium of the Grassland Society of Southern Africa, and sits on the NRF panel for the award of prestigious scholarships for PhD candidates. Dr Sheona Shackleton continued as a member of the National Forestry Advisory Council, and the SANParks Social Science Research Committee, whilst Charlie Shackleton was a member of the NRF rating panel for plant scientists, and Fred

Ellery participates on the WRC project evaluation panel.

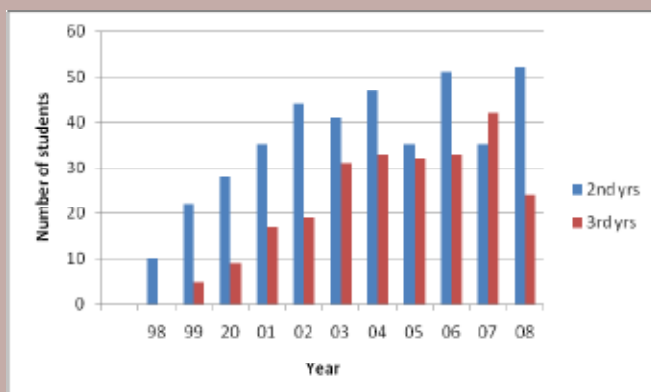
Still within the scientific community, staff act as reviewers for a total of more than 40 different peer-reviewed journals nationally and internationally. Charlie Shackleton is the associate editor of the journal *Environmental Conservation* (UK), as well as on the editorial board for the *Journal of Environmental Planning & Management* (UK). James Gambiza is assistant Editor of the *African Journal of Range & Forage Science* (RSA). Fred Ellery is on the editorial board of the journal *Peat & Mires* (UK), whilst Sheona Shackleton is on the editorial board of the journal *Forests, Trees & Livelihoods* (UK).

## 5. TEACHING

As already mentioned, there is complementarity between research and community engagement. So too, there is synergy and complementarity between those activities and teaching at the undergraduate level. Staff who are active researchers are up to date with the most recent debates, ideas and thinking around a specific topic. They can feed these into undergraduate lectures and practicals. It makes the lectures relevant and alive, and provides the basis for promoting critical evaluation of debates and ideas by the students.

Clearly this is attractive to undergraduates at Rhodes University, as the department has experienced a steady growth in student numbers (Figure 2), which appears to now be levelling off.

The structure of the courses for 2008 were similar to those offered in 2007, with the usual updating of



individual components and lectures. However, we did evaluate the 2007 offering of the 301 module

in Environmental Monitoring and Evaluation, which necessitated some changes. Overall pass rates were healthy, although slightly lower than the previous year, coming out at 92 % for second year students and 100 % for third years. A key focus or message remains problem-based learning, with students exposed to and learning about real life environmental problems.

We continued to develop and promote learning approaches using the latest communication and information technology. The role of the university-wide system, called RUConnected, is actively championed by most staff members of our department. Students had out of hours on-line debates on a variety of environmental topics.

A number of field trips and small projects were encouraged in the undergraduate classes. The 201 semester class had local trips to the Grahamstown commonage and an overnight trip to the Great Fish River Reserve. The 202 class went to Grahamstown commonage again where they learnt various techniques related to biodiversity and condition assessment, as well as a trip to the local landfill site to examine environmental aspects of waste disposal.

The third years took on a number of small group projects on various topics, including (i) water quality problems in Grahamstown, (ii) the recreational potential of dams in and around Grahamstown, (iii) the condition of several streams in and around Grahamstown, (iv) ecotourism potential and impacts of a lodge on the Wild Coast, (v) a survey of farmers to assess their willingness to participate in land restoration projects, and (vi) an assessment of recreational impacts at Settler Dam.

The Honours initiation field trip in January was a tour with varied activities relating to restoration of degraded lands. A few days were spent in the Baviaanskloof Megareserve, and then several days in the Kouga region. The weather was cool and drizzly for much of the time, which always adds a special dimension to camping out. The group was finally tasked with assessing the potential for volunteer tourism as means of clearing alien plants.

The external examiner for undergraduates and

Honours courses was Dr Bruce McKenzie. Once again he commented on the high standard of the courses, as well as the evidence of excellent analytical and writing skills displayed by our students. He commended us for the range and details of the various Honours projects.



In return, staff of the department acted as external examiners for several postgraduate theses from other South African universities, as well as Namibia and Australia. Dr James Gambiza is the external examiner for the undergraduate course in pasture and rangeland science at the University of Fort Hare.

## 6. FUNDERS

The Dept of Environmental Science at Rhodes University could not have earned its reputation for high productivity and quality teaching, research and community engagement without the support of many funders. Funding provides student bursaries, operating costs for research and community projects, and costs for capital equipment. All are vital. During 2008 we received support, for which we are immensely grateful, from a range of funders, listed below, some as part of ongoing projects, and others as a once off donation or contract.

- Centre for International Forestry Research (CIFOR)
- Coastal & Environmental Services (CES)
- DFiD, NERC and ESRC (UK) via Khanya-aid
- European Union via University of Wales (Bangor)
- Gamtoos Irrigation Board

- National Research Foundation (NRF)
- Rhodes University Joint Research Committee
- Rockefeller Brothers Fund (RBF)
- South African Netherlands Research Programme on Alternatives in Development (SANPAD)
- Technical Centre for Rural and Agricultural Cooperation (CTA)
- Water Research Commission (WRC)
- Working for Water & Working of Woodlands (via DWAF)

## 7. END NOTE – LOOKING INTO 2009

In a small but active department there are always many challenges however big or small. Key ones that we anticipate for 2009 will be:

- Integrating the new staff into the department and Rhodes to build a cohesive and productive unit with a shared vision and values.
- Charlie Shackleton will be on sabbatical for 12 months from mid-year. This will require some stand in teaching by temporary staff.
- Simultaneously, Charlie will be standing down as Head of Department. He hopes to devote more time to research. Fred Ellery will be taking over the reigns. Congratulations to him.

## 8. APPENDICES

### 8.1. Research outputs for 2008

#### 2008 JOURNAL PUBLICATIONS (12)

Appleton, C.C., Ellery, W.N., Byskov, J. & Mogkweetsinyana, S.S. 2008. Epidemic transmission of intestinal schistosomiasis in the seasonal part of the Okavango Delta, Botswana. *Annals of Tropical Medicine & Parasitology* 102: 611-623.

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## 8.2. Research outputs for the previous two years (2006 - 2007)

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