



DST-NRF Centre of Excellence
“Birds as Keys to Biodiversity Conservation”
Percy FitzPatrick Institute, UCT

ANNUAL REPORT 2011

Reporting Period
1 January - 31 December 2011

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CoE Identification

Name of Director	:	Prof. Philip A.R. Hockey
Name of CoE	:	DST-NRF Centre of Excellence at the Percy FitzPatrick Institute of African Ornithology
Abbreviated CoE name	:	PFIAO CoE
Host Institution	:	University of Cape Town
Date completed	:	6 March 2012

EXECUTIVE SUMMARY

1. Funding of the CoE for 2011

Total NRF CoE funding for 2011	:	R 5,244,425
Carry forward from 2010	:	R 1,518,412
Interest earned during 2010	:	R 31,440
UCT support for the Pazvolski Chair in 2011	:	R 132,115*
UCT URC support for 'Hot Birds' project in 2011	:	R 420,000*
Funding from other sources for the CoE in 2011	:	R 5,257,000**
Total funding	:	R 12,603,392

* represents UCT's contribution to the CoE; R552,115 of R5,244,425 = 10.5%.

** funding from sources, other than the NRF or UCT URC 'Hot Birds' grant, for projects conducted by the CoE (see Finances Section pages 23 - 28).

2. Summary of progress against Five Key Performance Areas

(i) Research

Eighty-five papers were published in peer-reviewed journals during 2011, 25 in journals with impact-factor ratings of 1.5-3.4, six in journals with ratings of 3.5-4.9, nine in journals with ratings of 5.0-9.9 and two in journals with ratings ≥ 10.0 . The proportion of peer-reviewed papers published according to the focal research areas is; characterizing biodiversity = 13, evolutionary ecology = 36 and maintaining biodiversity = 36.

(ii) Education and Training

Fifty-nine post-graduate students (21 PhD, 31 MSc and 7 BSc Honours) registered at South African institutions (25% black and 46% women) were supported directly or indirectly by the CoE during 2011. This was also a bumper throughput year, with 26 CoE-supported students (7 PhD, 1 MSc by dissertation, 11 MSc Conservation Biology and 7 BSc Honours) graduating during 2011. Twelve Post-doctoral Fellows were registered at the Fitzitute CoE during 2011.

(iii) Information Brokerage

Forty-five semi-popular articles and five contributions to semi-technical books were published during 2011. CoE members attended 11 international and 7 local conferences. CoE members also presented seminars and illustrated talks at numerous universities, bird clubs and membership-based societies.

(iv) Networking

A broad range of close, collaborative working relationships with scientific peers and a variety of conservation NGOs and governmental organisations exists both nationally and internationally. The CoE continued to be involved with student training initiatives. The CoE continues to build much-needed African capacity in the broad arena of biodiversity conservation.

(v) Service rendering

The CoE has been active in advising conservation organizations, government departments and industry on the outcomes of a variety of research projects. CoE members served on 16 journal editorial boards, 35 membership and advisory services, and reviewed 97 papers for 50 different peer-reviewed journals.

3. Gender and equity impacts of research

A proactive policy on recruiting women maintained a 46% representation of women in the postgraduate student body for 2011. Research project activities are increasingly addressing gender-related issues and community inclusion in the field, for example in the avian diseases, seabirds and Cape Parrot projects. Overall, Fitz CoE projects have generated 29 full-time jobs and 93 part-time jobs, all mostly women, which were active during 2011.

4. Red Flags/concerns for the future of the CoE

The NARIC system of admissions criteria remains problematic for student recruitment, particularly for the MSc Conservation Biology course where it affects demographics, prejudicing against African students, many of whom (with the same qualifications) would have been accepted onto the course in the past. With one exception, past African students who would now be excluded by NARIC passed the course.

5. General Comments

Following the award of fully funded CoE status in late 2010, the 5th Service Level Agreement (SLA 5; 2012-2014) was approved by the CoE Board during November 2011. The CoE exceeded its 4th Service Level Agreement targets with regards to student recruitment and output, and in terms of the quality of research publications as measured by their impact factors. Following the 5-year external review of the CoE during 2009, the CoE has, during 2010 and 2011, made strategic advancements to increase its emphasis on terrestrial ornithology and conservation research.

PROGRESS REPORT

1. Scientific Research

Objective

The research strategy of the CoE has been aligned to a goal of producing world-class research outputs, measured as the number of papers published in international, peer-reviewed journals with high SCI impact-factor ratings. To meet this goal, the CoE SLA 4 has a target of publishing ≥ 40 peer-reviewed publications per year, with an average of ≥ 10 papers with an impact rating ≥ 3.5 each year during 2009-2011.

Progress

Eighty-five papers were published in peer-reviewed journals during 2011,

Eighty-five papers carrying the CoE address were published in peer-reviewed journals during 2011 (Appendix 1). Twenty-five of these were in journals with impact-factor ratings of 1.5-3.4, six in journals with ratings of 3.5-4.9, nine in journals with ratings of 5.0-9.9 and two in journals with ratings ≥ 10.0 (Fig. 1). The proportion of peer-reviewed papers published according to the focal research areas was; characterizing biodiversity = 13, evolutionary ecology = 36 and maintaining biodiversity = 36. Appendix 3 reflects individual CoE member publication outputs.

FitzPatrick Institute publications in peer-reviewed journals, 2000-2011

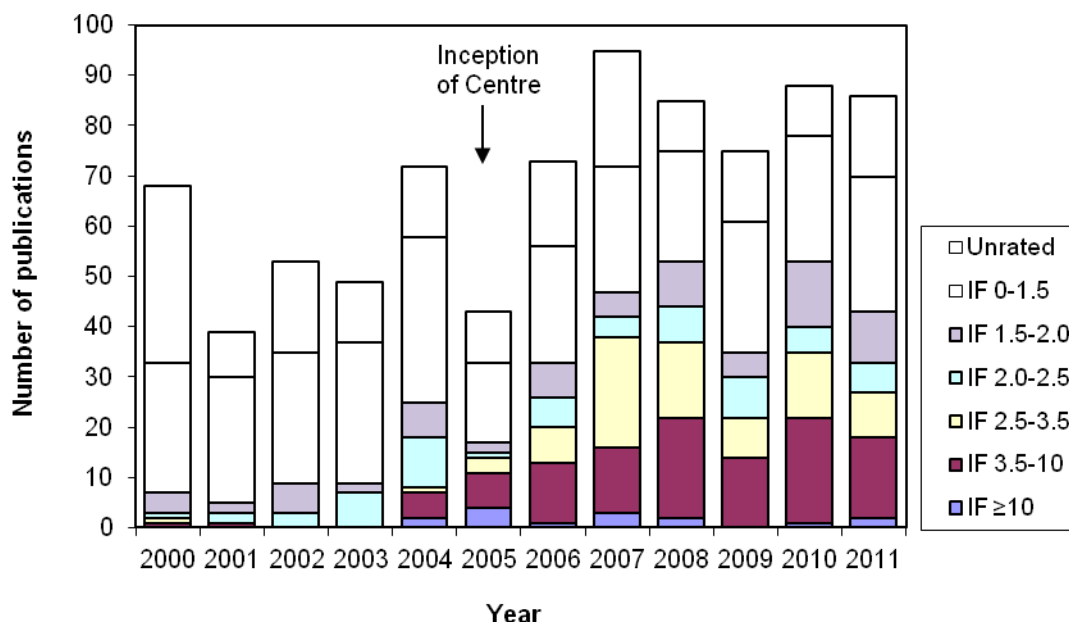


Figure 1. Trend in the quality of CoE publications (measured by journal 'Impact Factors') before and since the establishment of the Centre of Excellence. IF = Impact Factor. To place this in perspective, only five life-sciences journals worldwide (including Science and Nature) have impact factors >10 . Note: upgrade to fully funded status occurred in late 2010, so the impacts of this in terms of publications are unlikely to be felt before 2012.

Appendix 2 reflects the top 10 cited papers published by CoE researchers, analyzed using the *Web of Science*, for the three periods; since inception of the PFI/O 1960-2011; since five years prior to the CoE 2000-2011; and since inception of the CoE 2005-2011. It is interesting to note that over the entire history of the Fitzitute, of the top 10 cited papers, three were published in the 1980s, three in the 1990s and four since 2000. Also interesting is that three of the most-cited papers since the inception of the CoE remain in the top 10 over all time. The distribution of the focus of the top 10 cited papers according to the focal research areas is:

Time period	Research focus		
	Characterizing biodiversity	Evolutionary ecology	Maintaining biodiversity
2005 - 2011	4	1	5
2000 - 2011	5	1	4
1960 - 2011	2	2	6

A 2011 CoE paper on 'Palatability and efficacy of rodent baits for eradicating house mice *Mus musculus* from Gough Island, Tristan da Cunha' by Cuthbert, R.J., Visser, P., Louw, H. & Ryan, P.G. featured on the cover of the journal *Wildlife Research* (Vol. 38).

Another CoE paper 'Penguins are attracted to dimethyl sulphide at sea' by Wright, K.L.B., Pichegru, L. & Ryan, P.G. was selected as the Editors' Choice paper for the *Journal of Experimental Biology* (Vol. 214). The Editors' Choice paper is promoted on the journal's *Homepage* and *Facebook* page, and is also made available free of charge for 28 days from the time of publication.

Yet another CoE-affiliated paper, by Cunningham and Castro titled 'The secret life of wild brown kiwi: studying behaviour of a cryptic species by direct observation' published in the *New Zealand Journal of Ecology* (Vol. 35) won 'best paper by a new researcher' at the New Zealand Ecological Society Conference during 2011.

2. Education and Training

Objective

The short-term objective, as outlined in the SLA 4, is for the CoE to support (at least partially) an average of ≥ 20 postgraduate students and ≥ 5 Post-doctoral Fellows per annum during 2009-2011. A further target is for black students to comprise $\geq 30\%$ of the students supported by the CoE over this period. A medium- to long-term objective is to continue to build a vibrant research environment that instils a rigorous hypothetico-deductive approach to problem solving among the postgraduate student body.

Progress

Twelve Post-doctoral Fellows, 21 PhD, 31 MSc and 7 BSc Honours students (total = 71) registered at South African institutions were supported directly or indirectly by the CoE during 2011 (Tables 1, 4 & 5). Of the postgraduate students (excluding Post-doctoral Fellows), 15 (25%) were black, and 27 (46%) were females. Thirty (51%) of the students were South African, but there were only three black South African students. Two MSc students upgraded to PhD during 2011.

This was a record year for CoE-supported student throughput, with 26 students graduating during 2011 (7 PhD, 1 MSc by dissertation, 11 MSc Conservation Biology and 7 BSc Honours – Table 5). One PhD student who started in early 2011 and one 2011/2012 MSc CB student withdrew during 2011.

The inaugural Patrick Niven Conservation Biology Award was presented to Sarah Lewis as the top Conservation Biology MSc student for 2010/2011 at a special event in the Niven Library on Tuesday 23 August.

Table 1. Summary of student numbers 2004 – 2011

(Excludes BSc Honours students supported, because they graduate within the Zoology Department)

Degree	2004	2005	2006	2007	2008	2009	2010	2011
Post-doc	0	6	9	8	9	12	11	12
PhD	6	8	13	18	19	15	18	21
MSc	5	8	6	5	7	6	7	6
MSc CB	15	11	14	12	11	11	12	13
MSc CB(2)	13	15	11	14	12	11	11	12
Tot – CB(2)	26	33	42	43	46	44	48	52
Tot +CB(2)	39	48	53	57	58	55	59	64

2004 = prior to CoE

CB(2) = second year of a CB class cohort

The 5th Biodiversity Conservation Academy, a joint venture between the CoE for Invasion Biology (CIB) and the PFIAO CoE, was held at Potberg Environmental Education Centre in De Hoop Nature Reserve from 17–21 January 2011. The Academy was attended by 11 students from seven South African universities, and three interns from the South African National Biodiversity Institute and SANParks. All of the students were black and nine were women (Fig. 2). Eight staff from the two centres, and three volunteers, helped manage the Academy. Included in the staff were the Directors of the two Centres, Profs Steven Chown and Phil Hockey. The 5-day Academy programme immersed students in an intensive series of theoretical, practical and philosophical discussions and field-work sessions on biodiversity conservation. The main aim of these sessions was to enhance student appreciation for the complexity of biodiversity, sharpen their knowledge and skills required to assess it, and broaden their knowledge of the theory and practice of conservation in a South African context. The Academy report can be viewed on our website www.fitzpatrick.uct.ac.za. The Academy received high commendation from the participating students. Of the 95% of previous attendees whose future has been tracked, 75% have gone on to pursue postgraduate studies or internships in the conservation biology sector.



Figure 2. Participants in the 5th Biodiversity Conservation Academy, January 2011.

An extraordinary, joint-venture student exposure initiative was held during a visit by Sir David Attenborough to the Fitztute in April 2011. Sir David presented a Vice-Chancellor's Open Lecture in the Baxter Theatre as the final celebratory event of the Fitztute's 50th Anniversary. Following that he hosted a three-hour student question-and-answer session attended by Fitztute CoE, UCT Department of Zoology and SANBI staff and students at Kirstenbosch Botanical Gardens, SANBI.

The Fitz CoE also presented a stand at the NRF National Postdoctoral Research Forum at the Lord Charles Hotel, Somerset West, during December 2011 which was a valuable initiative to network with the other CoEs and to expose the activities of the Fitz CoE to a cross-section of Post-doctoral Fellows from around the country.

3. Information Brokerage

Objective

Medium- to long-term objectives are to: (1) make a sustained contribution to the semi-popular literature aimed at popularizing science in the fields of conservation biology in general and ornithology in particular; (2) provide expert views on relevant matters for newspaper and magazine articles; and (3) contribute to books of a semi-technical nature.

Progress

Forty-five semi-popular articles were published during 2011 (Appendix 1). CoE members also contributed to five books.

CoE members continued to present regular public talks to partner organisations and interested parties, such as the Sasol Birds and Birding Fair, NGOs, Environmental Action Groups, Conservancies and various Bird Clubs and membership-based societies. Various radio interviews have also been conducted, including on Cape Talk Radio, Radio 702, two BBC national radio stations, German and Canadian national radio stations and Dutch national TV.

Peter Ryan did a couple (3 or 4) of radio interviews in 2011, but can't remember for which radios (as I don't know them)... One was Cape Talk in April, though.

There were also articles on the penguin research in the bay regularly in local PE newspapers, like the Herald or the Week-end Post (Lloyd always sends stuff for them to publish), but I don't know if it's really interesting. I don't keep track of these things...

But Lloyd and I had a pledge week in February 2011 on Algoa FM to raise funds for the sonar for Winkle talking about penguins every day, as well as an associate weekly blog for 6 weeks during the breeding season (it's not online anymore).

Then the whole Island Closure experiment was filmed by Mike Vincent from Jasfilm and was shown on 50/50 in June 2011.

And in 2012, I was filmed for a week for a French marine documentary "Thalassa" that should be on TV in September.

(the BBC said they should come next year to film the whole closure experiment too, but that's next year).

CoE staff and students attended 11 international and 7 local conferences during 2011 (see Outputs section). This year, Tim Crowe received the Southern African Society for Systematic Biology Lifetime Achievement Award for Extraordinary Contributions to Systematic Biology and Sharon Okanga was awarded the best student presentation at the Parasitological Society of Southern Africa Conference.

The CoE presented a stand at the NRF/DST 2010/2011 CoE Annual Day held at UCT during February 2011, at which Phil Hockey gave an overview of the alignment and delivery of the Fitz CoE to the South African Government's Outcomes Approach, specifically for research and development.

The CoE presented a stand at the Biodiversity Expo hosted by Kirstenbosch National Botanical Gardens, SANBI, during May 2011. The Biodiversity Expo is an annual conservation community event where conservation organizations, projects, authorities and institutions gather to exhibit their current conservation work to Western Cape schools and the general public. While the primary focus is exhibiting conservation work, a diverse range of other value offerings have spun off from the event such as career guidance, job opportunities, sustainable living, business opportunities and corporate social investment opportunities. The four-day event also initiated a blog site related to the physical event with the objective of maintaining an online presence, so that

participants can interact with the conservation community from year to year. As new information arises, and documents or references become available, these are posted.

UCT celebrates Africa Day on 25 May each year, which is an opportunity to highlight our role and contribution to higher education and development in South Africa and the rest of Africa. The week-long Africa Exhibition from 23 – 27 May 2011 aimed to highlight academic, research, capacity building endeavours, collaborations and links UCT staff members have forged with continental universities, and the contribution made to the generation of Africa knowledge. The CoE presented a stand with a banner and posters which reflected our activities and impact in Africa.

Peter Ryan organized a workshop at the University of Cape Town during July 2011 on research and conservation priorities for the *Endangered* Bank Cormorant.

The Fitz CoE also has a Listing on the Enviropaedia online facility
http://www.enviropaedia.com/company/default.php?pk_company_id=510

Following the launch of the Cape Parrot Project *Facebook* page during 2010, which became the largest global online parrot conservation group, with over 4500 subscribers and hundreds of photos, videos, links and posts, the project has this year produced a DVD which has been screened in the US on PBS and local networks. "Endangered" has now brought it to South Africa where it will probably be screened after "Shoreline 2" during 2012. Another highlight during 2011 was that one of our project collaborators (Natalie Rowles) who supplied over 600 *Podocarpus latifolius* saplings for the tree-planting scheme won a "Special Commendation" in the *Mail & Guardian's* "Greening The Future Awards for 2011" for her "Free Trees for Schools" programme. Most of her saplings were planted on the University of Fort Hare campus by the project's planting team under Nic Armstrong, the project horticulturalist trained at Kirstenbosch gardens.

The 'arms race and co-evolution' research by Claire Spottiswoode appeared in a full page interview published in *The Observer* (the Sunday UK edition of *The Guardian*; June 2011), a video podcast interview published by The Royal Society, media coverage published in *The New York Times* (twice); BBC News website (twice); *The Times*; *USA Today*; *New Scientist*; *Discover Magazine* and other international newspapers and magazines (e.g. *De Volkskrant*, *NRC Handelsblad* and *Kijk* in The Netherlands; *Science et Vie* in France; *Infox* in Russia; and *Il Venerdì di Repubblica* in Italy); as well as a commentary published in the *Proceedings of the National Academy of Sciences*, USA.

Findings of the Ground-Hornbill Project in the Associated Private Nature Reserves (APNR) adjacent to the Kruger National Park have been produced as a DVD titled "Hornbill in Crisis", which has been well received by funders and potential supporters.

The 2nd edition of the book '*Gamebirds of Southern Africa*' by Rob Little and Tim Crowe was the Random House Struik 'pick of the month' for August 2011 and Rob Little was the 'author of the month' also for August.

4. Networking

Objective

Medium- to long-term objectives are to: (1) establish a wide range of key collaborative associations with scientific peers and peer research groups, both locally and abroad; (2) establish partnerships with conservation organisations and NGOs; and (3) establish strong relationships with business organisations with either direct or indirect interests in the fields of conservation biology and ornithology.

Progress

The CoE continued its involvement with joint-venture student training initiatives and other networking interactions between institutions directly or loosely collaborating with the CoE. Primary collaboration continued with the molecular laboratory of Asst. Prof. Rauri Bowie at the University of California, Berkeley, Assoc. Prof. Paulette Bloomer and Prof. Andrew McKechnie at the University of Pretoria, and Dr Pierre Pistorius at the Nelson Mandela Metropolitan University.

Collaborative working relationships with scientific peers now exist both nationally and internationally (Table 6). Additional emphasis has been placed on working with historically black universities in South Africa and African universities, e.g. University of Fort Hare, Tshwane University of Technology and the Universities of Zimbabwe and Zambia. Eight of the 12 Post-doctoral Fellows came from seven foreign countries.

The Conservation Biology Course continued to build biodiversity conservation capacity within and outside of South Africa, with the graduation of international students from the UK (x3), Canada, Costa Rica, Germany and the USA, and the enrolment of students from the UK (x2), USA (x3), Canada, Liberia, the Netherlands and Zimbabwe during 2011. In 2011, the 213th Conservation Biology MSc student graduated.

A significant collaborative event this year was the launch of the Penguin Research Vessel, "Winkle", on the 23rd of June 2011 at the Algoa Bay Yacht Club in the Port Elizabeth harbour. More than 130 people, including many sponsors and conservation partners, attended the event. Equipped with an advanced technology multi-scan sonar, the Winkle will allow the research team to get an accurate picture of sardine and anchovy movement. We know where the penguins are going through GPS deployments, and where the fishermen are catching their prey, but we don't know how many fish are actually available to the penguins and the fishermen, and how far they travel over what time periods. Answering these questions will help refine African Penguin conservation strategies. The extent to which fish move is critical to designing the appropriate size and configuration of no-take zones where fish can escape heavy fishing pressure and be more available to the penguins close to home. The event was covered by the *Algoa Sun*, *The Herald* and *Die Burger*, and also screened on the SABC news that Sunday evening. Information on the project and photographs can be viewed at www.algoafm.co.za/blog or the projects Blog: The Penguin Patrol: AlgoaFM.

Prominent research and conservation partners who visited the CoE during 2011:

A highlight of the year was the visit by Sir David Attenborough during April 2011. He presented a Vice-Chancellor's Open Lecture in the Baxter Theatre titled '*Alfred Russel Wallace and the Birds of Paradise*' as the final celebratory event of the Fitztitute's 50th Anniversary and hosted a three-hour student question-and-answer session.

Dr Per Alström, Swedish Species Information Centre, Swedish University of Agricultural Sciences, Uppsala, Sweden, visited the Fitz during January 2011 and gave a seminar titled '*Warbler secrets revealed by songs and DNA*'.

Dr Claire Spottiswoode, a Fitz research associate based at the University of Cambridge, also gave a Fitz seminar during January 2011 titled '*A stab in the dark: the evolution of brood parasitism in Greater Honeyguides*'.

Harriet Nimmo, recently appointed Fitz Advisory Board member, gave a Fitz seminar titled '*Surfing the digital wave - Africa Geographic's digital publishing agency - bigFIG*' during May 2011.

Prof. John Croxall (CBE, FRS), Chair of the BirdLife International Global Seabird Programme and former head of the British Antarctic Survey, visited Cape Town to participate in the BirdLife Save Our Seabirds festival and gave a Fitz seminar and discussion session during October 2011.

5. Service rendering

Objective

A medium- to long-term objective is to establish formal contact with a range of conservation agencies and other relevant government bodies, such as Dept Environmental Affairs, Dept Agriculture and Dept Water Affairs & Forestry, to ensure the expertise of the CoE can be used to address practical research and information needs. CoE members will continue to render their services to the broader scientific community and the general public.

Progress

Links continue to be serviced with a diversity of conservation agencies, NGO's, government departments, and industry partners. These include the Department of Environmental Affairs, Department of Agriculture, Forestry & Fisheries, the South African National Biodiversity Institute, South African National Parks, IUCN, Conservation International, Fauna & Flora International, the Royal Society for the Protection of Birds, BirdLife South Africa and Zimbabwe, the Endangered Wildlife Trust, the Namibian Ministry of the Environment, the Wildlife Conservation Society, the Nature Conservation Corporation, the South African Deep Sea Trawling Industry Association and Irvin & Johnson.

CoE members served on the editorial boards of 16 scientific journals, and on 35 membership and advisory services, as well as reviewing 97 papers for 50 peer-reviewed international and local journals during 2011 (see below). CoE members also contributed to a NRF SARCHI Review Panel, conducted four NRF personal rating evaluations and one NRF Post-doctoral Fellowship evaluation during the year.

During 2011 the International Commission for the Conservation of Atlantic Tunas (ICCAT) made a move that heralds a new era in cooperation and willingness to embrace the measures that have been designed and shown to be safe, simple and effective at reducing seabird by-catch in long-line fishing. Fishing nations, led by Japan,

agreed to simplify the current requirements for fishing vessels operating in areas of highest risk to albatrosses. The Commissioners accepted that the best available science supports the use of a combination of only three measures, and moved to eliminate all other measures which do not have scientific support. The three measures are: only setting lines at night when few seabirds can forage effectively, mandatory use of 'bird-scaring streamer lines' (also called Tori lines), and the addition of weights to ensure that baited hooks sink quickly. These measures are currently required in South Africa's domestic and joint-venture tuna long-line fisheries, and South Africa was one of the sponsoring nations for the successful amendments to the ICCAT resolution. The Fitz CoE and BirdLife have been working towards this since 2004, and the new ICCAT measures have been enforced in South Africa since 2008. Monitoring of mortality on long-lines in the ICCAT area has shown that these simple techniques can reduce seabird deaths by 80% or more, without impacting fishing operations' profitability. This resolution finally brings the rest of the Atlantic tuna fleets in line with South Africa's domestic policy, and we applaud the proactive role of the South African delegation to the 2011 ICCAT commission in working with the other nations to achieve this.

The Ludwig's Bustard project, which amongst other things aims to explore mitigation options through experimentation of power line marking devices and visual assessment of bustards and other collision prone species, has rendered a close relationship between the Institute and ESKOM. Following our successful application, Ludwig's Bustard was upgraded to globally *Endangered* on the 2010 IUCN Red List (based on preliminary power-line mortality survey data and population modeling). We also recently assisted the Endangered Wildlife Trust and the Eskom live-line team as they put up a large-scale bird-deterrent experiment on transmission lines near De Aar. This will test whether marking devices are effective in lowering bird collision mortality.

Members of the Fitz CoE Nelson Mandela Bay penguin research team have been comparing two management strategies to increase African Penguin breeding success which have resulted in the consistent culling of Kelp Gulls by SANParks on Bird Island, Eastern Cape, as well as changing the design of artificial burrows, from fiberglass to cement pipes cut in half, which are successfully increasing penguin chick survival. Peter Ryan has been advising the Robben Island Museum on various strategies to protect cormorant breeding colonies from human disturbance.

Research on the Afromontane forests of Angola is being used to support and guide Angola's Ministry of the Environment to develop a conservation strategy for this endangered habitat, including choosing and designing appropriate protected areas.

The 'Hot birds' team assisted BirdLife South Africa and UCT with the development of lobbying materials as part of the United Nations Convention Framework on Climate Change (NFCCC) for use at the 17th International Climate Change Conference of Parties (CoP 17) held in Durban during December 2011.

The waterbird spatial ecology and diseases team lead by Graeme Cumming are working with Ezemvelo-KZN Wildlife (contact: Dr. Ricky Taylor) to understand anthropogenic impacts on waterbirds in the Pongola floodplain which will lead to refinement of management policy for the area.

We are involved in research with the SA Veterinary Services, Onderstepoort Veterinary Institute, and the Ostrich Producer's Association (Oudtshoorn) to try to better understand and manage the causes of avian influenza outbreaks in farmed ostriches. Christine Moore investigated the ramifications and intricacies of the avian flu (N2H5) in the Ostrich industry in South Africa with the intention of advising the industry on vulnerability to avian flu. This followed the 2004 and 2011 outbreaks which lead to the culling of 32 000 birds in 2011 and subsequent compensation by the Government to the value of R23 million. The project has offered recommendations on the alterations of the design of the production system and a new pathogen testing strategy.

Msc student Sharon George (graduated June 2011) and Honours student Koebraa Peters (graduated December 2011) have highlighted for the first time the impact that domestic cats are having on biodiversity in Africa. That between 3.5 and 17 million prey are killed annually by Cape Town's domestic cats has captured the public's attention. Talks, newspaper articles (*Argus* and *Cape Times*), radio interviews (Cape Talk) and magazine articles (*Getaway*) have highlighted the biodiversity impact issues of cats and it is our wish that conservation agencies take this more seriously in their local by-laws for cat owners.

Positions on Editorial Boards, Councils, Advisory/Steering Committees, etc.
(this applies *only* to positions active in 2011)

Editorial Boards

- *Antarctic Science* (Associate Editor; Ryan)
- *Austral Ornithology* (Associate Editor; McKechnie)
- *Biological Conservation* (Editorial Board; Hockey)
- *Bird Conservation International* (Associate Editor; Ryan)
- *BMC Evolutionary Biology* (Editorial Board; Bowie)
- *Ecology: Conservation and Restoration* (Associate Editor; Ryan)
- *Diversity and Distributions* (Associate Editor; Cumming)
- *Ecology & Society* (Associate Editor; Cumming)
- *Emu* (Associate Editor; McKechnie)
- *Ibis* (Editor; Bowie, Associate Editor; Pichegru)
- *ISRN Zoology* (Editor; Pistorius)
- *Journal of Arid Environments* (Associate Editor; Milton)
- *Landscape Ecology* (Editorial Board; Cumming)
- *Ostrich – Journal of African Ornithology* (Associate Editors; Bowie, McKechnie) (Book Review Editor; Koopman)
- *Public Library of Science* (PLoS – International Advisory Group; Hockey)
- *South African Journal of Wildlife Research* (Associate Editor; Cumming)

Membership & Advisory services

- ACAP Taxonomy Working Group (Ryan)
- *Africa Birds and Birding* (scientific advisors; Hockey, Ryan)
- Africa Geographic (Director; Boyes)
- American Ornithological Union (Bowie)

- BirdLife South Africa Council and Conservation Advisory Committee (President; Ryan; Members; Hockey, Ryan)
- British Ecological Society (Hockey)
- British Ornithologists' Union (Council; Bowie, Spottiswoode, Members; Cunningham, Hockey,)
- Cooper Ornithological Society (Bowie)
- Earth-Touch (Scientific Advisory Board members; Hockey, Ryan, Little)
- Ecological Society of America (Cumming, Hockey)
- Endangered Wildlife Trust Threatened Grassland Species Programme Advisory Group (Little, McKechnie)
- Faculty Member, 'Faculty of 1000'. See <http://f1000.com/> (Cumming)
- International Ornithologists' Union (Fellows; Crowe, Hockey)
- International Parrot Research Group (Africa Coordinators; Boyes, Martin)
- International Society for Behavioural Ecology (Spottiswoode)
- Mabula Ground-Hornbill Advisory Board (Vice-Chairman; Little)
- Mazda Wildlife Fund Advisory Board (Little)
- National Zoological Gardens Ethics & Scientific Committee (McKechnie)
- Resilience Alliance (Cumming)
- Royal Society of South Africa (Hockey)
- SAFRING Steering Committee (Hockey)
- Society for Conservation Biology (Cumming)
- Society for Systematic Biology (Bowie)
- Society for the Study of Evolution (Bowie)
- South African Biodiversity Information Facility (Crowe)
- South African Biosystematics Initiative Steering Committee (Bloomer)
- South African Bird Atlas Project 2 Steering Committee (Ryan)
- South African Young Academy of Science (Founder member; McKechnie)
- Southern African Bird List Committee (Bowie, Hockey, Ryan)
- Southern African Society for Systematic Biology (President; Bloomer)
- Southern Ground-Hornbill Action Group (Little)
- Tristan's Biodiversity Advisory Group (Ryan)
- Wild Bird Trust (Director & Trustee; Boyes)
- World Parrot Trust Africa (Director; Boyes)
- World Bird List Committee (Bowie, Ryan)

Manuscript reviews

African Journal of Ecology (Boyes 6, Spottiswoode 1)
African Journal of Marine Science (Pistorius 3)
African Zoology (Boyes 1)
Antarctic Science (Ryan 2)
Auk (Bowie 2)
Behavioural Ecology & Sociobiology (Covas 1)
Biological Conservation (Little 1, Pichegru 2)
Biological Journal of the Linnean Society (Bowie 1, Spottiswoode 1)
Bird Conservation International (Ryan 1)
BMC Evolutionary Biology (Bowie 5, Crowe 1)
Diversity and Distributions (McKechnie 1)

Ecological Applications (Cumming 1)
Ecological Economics (Cumming 1)
Ecology & Society (Cumming 1)
Ecography (Cumming 1, Hockey 1)
Ecosphere (McKechnie 1)
Environmental Modeling and Assessment (Cumming 1)
European Journal of Wildlife Research (Melo 1)
Evolution (Spottiswoode 1)
Functional Ecology (McKechnie 2)
Global Change Biology (McKechnie 1)
Global Ecology & Biogeography (Bowie 1)
Global Environmental Change (Cumming 1)
Ibis (Bowie 30, Spottiswoode 1)
Journal of Animal Ecology (Spottiswoode 1)
Journal of Applied Ecology (Cumming 1)
Journal of Avian Biology (Cook 1, Cunningham 1, Martin 1, Spottiswoode 1)
Journal of Biogeography (Bowie 2)
Journal of Comparative Physiology B (McKechnie 1)
Journal of Experimental Biology (McKechnie 1, Pichegru 1)
Journal of Heredity (Melo 1)
Journal of Ornithology (Cook 1)
Journal of Zoology, London (Bowie 2, McKechnie 3)
Parasitology (Spottiswoode 1)
PLoS One (McKechnie 1, Ryan 1)
Proceedings of the Royal Society of London (Covas 1, Ryan 1)
Marine Ecology Progress Series (Pichegru 1, Ryan 1)
Methods in Ecology and Evolution (McKechnie 1)
Molecular Ecology (Bowie 2, Ryan 1)
Molecular Phylogenetics & Evolution (Bowie 5, Crowe 1)
Naturwissenschaften (McKechnie 1)
Ostrich (Bowie 3, Cunningham 1, Little 3, McKechnie 2)
Polar Biology (Pistorius 1)
Polar Record (Ryan 1)
Science (Covas 1)
South African Journal of Science (Crowe 1)
South African Journal of Wildlife Research (Bowie 1, Boyes 1, Pistorius 1)
Systematic Biology (Bowie 1)
Waterbirds (Hockey 2)
Western Indian Ocean Journal of Marine Science (Hockey 1)

6. Gender and equity impacts of research

Objective

A medium- to long-term objective is to ensure that gender issues are considered in all aspects of the CoE's work, with the goal of maintaining an equal representation of the sexes within the CoE in the long term.

Progress

The CoE continues to be guided by a proactive recruitment policy to attract female postgraduates to encourage gender parity in the CoE student body. This policy has been relatively successful, with 46% of postgraduate students supported by the CoE in 2011 being females. The academic and support staff gender profile of the CoE has improved and stands at 47% female. The 2011 Biodiversity Academy held during January attracted 14 students, of whom nine (64%) were females.

Research at the PFIAO into avian malaria and avian influenza, diseases which affect chickens and other poultry, is providing information that can be used to educate African women about the risks of handling poultry and causes of the spread of these diseases.

The Cape Parrot Project in the Amatole Mountains, Eastern Cape, aims to plant 25 000 indigenous tree saplings (predominantly yellowwoods) each year for the next two years and erect 600 artificial nest boxes for parrots in suitable trees throughout the Hogsback area. We have injected much-needed investment into a poorly managed, community-run indigenous tree nursery previously funded by the Danish government, by buying up their entire stock of 5 000 indigenous tree saplings. We are teaching local women to use 'worm farms' to produce fertilizer and grow yellowwood saplings in potting bags provided. Teams of five local women will be supervised by our Community Liaison Officer (employed by the Fitztitute and BirdLife SA), planting up to 1 000 saplings in a designated forest patch. Thirty-five women are employed part-time and will be trained to take care of the indigenous saplings and, following an audit by the Community Liaison Officer, will be paid R10 per sapling every six months (i.e. up to R50 000 each year). The project also took over the management of a pecan nut orchard at the University of Fort Hare, where over 280 Cape Parrots feed daily for more than four months each year. We have fenced the pecan orchard and contracted nine women from the local community to gather the pecan nuts, de-shuck and package them. Revenue from this small business will be shared between the local women and the management of the pecan orchard. The project has also launched the 'Green Campus Initiative' at Fort Hare by planting 750 indigenous trees (wild olives & wild plums) with the Student Representative Council and the International Leadership Council hosted by Fort Hare.

The CoE's seabird and fishing industry programme initiated the use of bird-scaring lines (BSLs) to minimize seabird by-catch. This created the opportunity for 10 disadvantaged coloured people in the Oceanview community, Kommetjie (five males and five females ranging from 22 to 71 years old) to create a micro-industry to make BSLs. Older people involved in the project are able to pass on their skills and knowledge to the younger members of the team. They are able to build a long-line BSL in about two hours and a deep-sea trawl BSL in about one hour. They sell the completed lines for R150 per line and are thus able to bring some money back into the community. Some of the team are ex fishermen and now regard this as an alternative livelihood. This project also receives funds from Total to assist with the cost of the materials, etc. The Fitz CoE Nelson Mandela Bay research team has also trained formerly disadvantaged rangers from SANParks to collect penguin data on Bird Island in the Eastern Cape.

The brood-parasite project in Zambia run by Claire Spottiswoode has provided a source of cash income to over 40 local people, mostly unemployed farm labourers, as well as full-time employment to 10 people. During 2011, few of these were women, but we are actively trying to recruit more women to take part in the project. Claire is also a Mentor for the British Ecological Society's mentorship scheme for women in ecology and gave

a talk on academic careers in science for the Women in Science, Engineering and Technology Initiative (WiSETI) in Cambridge, UK, during June 2011.

Kate England's MSc CB project on the disturbance to shorebirds by local resource users and tourists at the Sabaki River Estuary, Kenya during 2011 included a livelihood and resource-use survey of 190 households. Although 70% of income was from natural resources, and therefore restricting resource use would impact local livelihoods and thus undermine conservation, over 90% of households responded positively to both increased tourism and regulation of resource use. Recommendations from her project included the provision of a piped water supply which would increase agricultural protein output and income, thus reducing fishing activities, and would further increase women's time for other more constructive activities than that of fetching water from the estuary.

The Mount Moco project in Angola has provided part-time employment for four young men from the Kanjonde community to run a forest species nursery to expand the remnant forest fragments. The project is also promoting Mount Moco as an avitourism destination, increasing the work opportunities for the local guides.

Overall, Fitz CoE projects have generated 29 full-time jobs and 93 part-time jobs, all mostly women, which were active during 2011.

HUMAN RESOURCES

The following people worked within the CoE during 2011 (or part thereof).

Table 2. Core Team Members for 2011

Title	Name	Citizen	Institution	Gender	Race	H-index ISI*	% time working in CoE
Dr	Colleen O’Ryan	SA	UCT - MCB	F	B	9	10
Prof.	Paulette Bloomer	S A	U. Pretoria	F	W	12	10
Dr	Arjun Amar	UK	UCT	M	W	8	100
A/Prof.	Rauri Bowie	SA	U. Cal. USA	M	W	17	50
Prof.	Tim Crowe	SA	UCT	M	W	22	100
Prof.	Graeme Cumming	SA	UCT	M	W	22	100
Prof.	Phil Hockey	UK/SA res	UCT	M	W	25	100
A/Prof.	Andrew McKechnie	SA	U. Pretoria	M	W	13	30
Dr	Pierre Pistorius	SA	NMMU	M	W	11	50
A/Prof.	Peter Ryan	SA	UCT	M	W	29	100

* H-index scores (ISI 2011 measure) as calculated on 16 January 2012

Table 3. Honorary Professors & Research Associates for 2011

Title	Name	Citizen	Institution	Gender	Race	% time spent working in CoE
Dr	Phoebe Barnard *	UK	SANBI	F	W	5
Dr	Rita Covas	Portugal	CEFE-CNRS, France	F	W	80
Prof.	Sue Milton *	SA	UCT	F	W	10
Dr	Mandy Ridley *	New Zealand	Macquarie U, Aus.	F	W	50
Dr	Claire Spottiswoode	SA	U Cambridge, UK	F	W	30
Dr	Richard Dean	SA	UCT	M	W	10
Prof.	David Cumming *	Zimbabwe	U Zimbabwe	M	W	20
Dr	David Gremillet *	France	CNRS	M	W	20
Dr	Andrew Jenkins	SA	UCT	M	W	20
Dr	Anthoni Milewski	Australia	Murdoch U, Aus.	M	W	20
Dr	Rob Simmons *	UK	UCT	M	W	40
Dr	Ross Wanless *	SA	BirdLife SA	M	W	40

*Official UCT Honorary Professor or Research Associate

Table 4. Post-doctoral Fellows for 2011 (All registered at UCT)

Title	Name	Citizenship	Start date	Gender	Race	CoE support level	
						Bursary	Running
Dr	Felix Nchu	Cameroon	02/2009	M	B	Yes	Yes
Dr	Maelle Connan	France	09/2011	F	W	No	Yes
Dr	Susie Cunningham	New Zealand	05/2010	F	W	Yes	Yes
Dr	Lorien Pichegru	France	05/2008	F	W	No	Yes
Dr	Tim Cook	France	03/2009	M	W	Yes	Yes
Dr	Steve Boyes	SA	08/2009	M	W	No	Yes
Dr	Alan Lee	SA	12/2011	M	W	Yes	No
Dr	Douglas Loewenthal	SA	10/2008	M	W	Yes	Yes
Dr	Rowan Martin	UK	05/2009	M	W	Yes	Yes
Dr	Ralf Mullers	Holland	11/2011	M	W	Yes	Yes
Dr	Graeme Oatley	SA	07/2011	M	W	Yes	Yes
Dr	Tim Reid	Australia	08/2010	M	W	No	No

Table 5. List of students for 2011 (* = graduated, ** = withdrew during 2011)

Title	Name	Citizenship	Institution	Gender	Race	Degree	1 st year	CoE support level	
								Bursary	Running
Ms	Tshifiwe Mandiwana	SA	UCT	F	B	PhD	2004	No	No
Ms	Sharon Okanga	Kenya	UCT	F	B	PhD	2009	Yes	Yes
Mr	Adams Chaskda*	Nigeria	UCT	M	B	PhD	2007	No	No
Mr	Potiphar Kaliba	Malawi	UCT	M	B	PhD	2007	Yes	Yes
Mr	Sampath Lokugalappatti*	Sri Lanka	U Berkl / Stell	M	B	PhD	2005	No	Yes
Mr	Mduduzi Ndlovu	Zimbabwe	UCT	M	B	PhD	2010	Yes	Yes
Mr	David Ngwenyama**	Zambia	UCT	M	B	PhD	2011	Yes	Yes
Mr	Zingfa Wala	Nigeria	UCT	M	B	PhD	2011	No	Yes
Ms	Viviane Barquete-Costa	Brazil	UCT	F	W	PhD	2007	No	No
Ms	Genevieve Jones*	SA	UCT	F	W	PhD	2007	Yes	No
Ms	Sonja Kruger	SA	UCT	F	W	PhD	2011	No	No
Ms	Lisa Nupen	SA	UCT	F	W	PhD	2008	Yes	Yes
Ms	Angela Ribeiro*	Portugal	UCT	F	W	PhD	2007	No	Yes
Ms	Jess Shaw	UK	UCT	F	W	PhD	2009	Yes	No
Mr	Callan Cohen*	SA	UCT	M	W	PhD	1999	No	No
Mr	Owen Davies	SA	UCT	M	W	PhD	2011	Yes	Yes
Mr	Grant Joseph	SA	UCT	M	W	PhD	2010	Yes	Yes
Mr	Ian Little*	SA	UCT	M	W	PhD	2008	No	No
Mr	Graeme Oatley*	SA	UCT	M	W	PhD	2007	No	Yes
Mr	Ben Smit	SA	U Pretoria.	M	W	PhD	2007	Yes	Yes
Mr	Alex Thompson	SA	UCT	M	W	PhD	2011	Yes	Yes
Ms	Hlengiwe Mbatha	SA	UCT	F	B	MSc CB	2011	No	No
Ms	Lovelater Sebele	Zimbabwe	UCT	F	B	MSc CB	2011	Yes	Yes
Mr	Asefa Mitiku	Ethiopian	U Pretoria	M	B	MSc	2010	Yes	Yes
Mr	Gregory Mutumi*	Zimbabwe	UCT	M	B	MSc	2008	No	Yes
Mr	Darlington Tuagben	Liberia	UCT	M	B	MSc CB	2011	No	No
Ms	Nikki Best	USA	UCT	F	W	MSc CB	2011	No	No
Ms	Emily Cressey	UK	UCT	F	W	MSc CB	2011	No	No
Ms	Mia Cerfontein	SA	UCT	F	W	MSc	2011	Yes	No
Ms	Petra de Abreu*	SA	UCT	F	W	MSc CB	2010	No	No
Ms	Lauren de Vos	SA	UCT	F	W	MSc CB	2011	Yes	No
Ms	Kate du Plessis*	USA	UCT	F	W	MSc CB	2010	No	No
Ms	Kate England*	Canada	UCT	F	W	MSc CB	2010	No	No

Ms	Masumi Gudka	Kenya	UCT	F	B	MSc CB	2010	No	No
Ms	Joanne Gwilt**	UK	UCT	F	W	MSc CB	2011	No	No
Ms	Clova Jurk*	UK	UCT	F	W	MSc CB	2010	No	No
Ms	Sarah Lewis*	UK	UCT	F	W	MSc CB	2010	No	No
Ms	Gina Louw*	SA	UCT	F	W	MSc CB	2010	No	No
Ms	Jenneca McCarter	USA	UCT	F	W	MSc CB	2011	No	No
Ms	Christine Moore	Canada	UCT	F	W	MSc CB	2011	No	No
Ms	Sofia Solano*	Costa Rica	UCT	F	W	MSc CB	2010	No	No
Mr	Jeremy Goss	SA	UCT	M	W	MSc CB	2011	No	Yes
Mr	Lisle Gwynn	UK	UCT	M	W	MSc	2011	Yes	Yes
Mr	Dominic Henry	SA	UCT	M	W	MSc	2011	Yes	Yes
Mr	Andre Krahner*	Germany	UCT	M	W	MSc CB	2010	No	No
Mr	Dane Marx*	SA	UCT	M	W	MSc CB	2010	No	No
Mr	Edward Rice	SA	UCT	M	W	MSc CB	2011	Yes	No
Mr	Maurice Schutgens	Netherlands	UCT	M	W	MSc CB	2011	No	No
Mr	Vincent van der Merwe*	SA	UCT	M	W	MSc CB	2010	Yes	No
Mr	Rowen van Eeden	SA	UCT	M	W	MSc	2010	Yes	Yes
Mr	Dale Wright*	SA	UCT	M	W	MSc CB	2010	Yes	No
Mr	Daniel Wright	USA	UCT	M	W	MSc CB	2011	No	No
Ms	Koebraa Peters*	SA	UCT	F	B	BSc Hon	2011	Yes	No
Ms	Alexa Prinsloo*	SA	UCT	F	W	BSc Hon	2011	Yes	No
Mr	Ben Dilley*	SA	UCT	M	W	BSc Hon	2011	Yes	No
Mr	David Green*	SA	NMMU	M	W	BSc Hon	2011	Yes	No
Mr	Gareth Tate*	SA	UCT	M	W	BSc Hon	2011	Yes	No
Mr	Maarten Van Beuningen*	SA	UCT	M	W	BSc Hon	2011	Yes	No
Mr	William Wyness*	SA	UCT-Bot	M	W	BSc Hon	2011	No	Yes

Table 6. Collaborators (Loosely involved with CoE) during 2011

Title	Surname	Citizenship	Institution	Gender	Race	% time spent working in CoE
Dr	Abolnik	SA	Onderstepoort Vet Inst	F	W	2
Dr	Allen	SA	Durban Mus	M	W	1
Dr	Alström	Sweden	Uppsala Univ.	M	W	2
Mr	Anderson	SA	BirdLife SA	M	W	5
Dr	Aronson	France	CNRS	M	W	1
Prof	Balmford	UK	Cambridge	M	W	2
Dr	Barker	USA	U Minnesota	M	W	1
Dr	Barrowclough	USA	Am Mus Nat Hist	M	W	1
Dr	Bates	USA	Chicago Mus.	M	W	1
Dr	Beresford	USA	Stockton College	F	W	1
Prof.	Blignaut	SA	U Pretoria	M	W	1
Dr	Bodin	Sweden	Lund Univ.	M	W	2
Dr	Boucher	SA	U Stellenbosch	M	W	1
Prof.	Brigham	Canada	U Regina	M	W	2
Dr	Caron	France	CIRAD	M	W	2
Mr	Chiweshe	France	CIRAD	M	B	2
Dr	Cuthbert	UK	RSPB	M	W	2
Dr	Doutrelant	France	CEFE-CNRS	F	W	5
Dr	Gaidet	France	CIRAD	M	W	2
Dr	Gous	SA	SANCOB	M	W	5
Dr	Gremillet	France	CNRS	M	W	5
Dr	Fjeldså	Denmark	U Copenhagen	M	W	2
Dr	Freckleton	UK	Oxford U	M	W	1
Dr	Hatchwell	UK	U Sheffield	M	W	5
Prof.	Hedderson	SA	UCT	M	W	1
Dr	Hilton	UK	RSPB	M	W	1
Prof.	Huntley	UK	U Durham	M	W	1
Dr	Irestedt	Sweden	Sw Mus Nat Hist	M	W	2
Prof.	Jansen	SA	Tshwane U Tech	M	W	1
Dr	Jetz	USA	U Cal. San Diego	M	W	1
Dr	Kock	SA	WCS	M	W	2
Prof.	Lovegrove	SA	U KZN	M	W	5
Mr	Magunje	Zimbabwe	BirdLife Zimbabwe	M	B	5
Dr	Mitchell	Australia	U. Western Aus	F	W	5
Dr	Mzilikazi	SA	NMMU	M	B	5
Dr	Quader	India	National Centr Biol Sci	M	B	5
Prof.	Richardson	SA	U Stellenbosch	M	W	1
Dr	Seebacher	Australia	U Sydney	M	W	5
Prof.	Swanson	USA	U South Dakota	M	W	1
Prof.	Sorenson	USA	Boston U	M	W	2
Mr	Willems	Zambia	Kasanka Trust	M	W	10
Dr	Wimberger	SA	U Fort Hare	F	W	10
Prof.	Wolf	USA	U New Mexico	M	W	5
Dr	Wondafrash	Ethiopia	Eth Wildl & Nat Hist Soc	M	B	10
Dr	Woodborne	SA	CSIR	M	W	5

Table 7. Administrative and Support Staff for 2011

Title	Name	Position	Based at	Gender	Race
Ms	Phelisa Hans	Library Assistant	UCT	F	B
Mrs	Tania Jansen	Snr Secretary	UCT	F	B
Mrs	Anthea Links	SAP Administrator	UCT	F	B
Mrs	Hilary Buchanan	Administrator	UCT	F	W
Mrs	Margaret Koopman	Librarian	UCT	F	W
Ms	Melissa Stander	Webmaster	UCT	F	W
Dr	Rob Little	CoE Manager	UCT	M	W
Mr	Chris Tobler	Snr Technical Officer	UCT	M	W

Table 8: Table of CoE Post-doctoral Fellow and Student demographics in 2011

These figures include CoE-supported students at collaborating institutions.

	Black			White			Total
	Female	Male	total	Female	Male	total	
P-doc	0	1	1	3	8	11	12
PhD	2	6	8	6	7	13	21
MSc	3	3	6	14	11	25	31
BSc Hons	1	0	1	1	5	6	7
Total	6	10	16	24	31	55	71

OUTPUTS

Publications during 2011 (Refer to Appendix 1)

Articles in peer-reviewed journals:

85 papers were published in peer-reviewed journals.

Semi-popular articles:

45 articles were published in the semi-popular literature.

Books / Chapters in books:

5 contributions were made to published books and book chapters.

Conferences attended during 2011: Meeting (month, place), people who attended

Southern African Society for Systematic Biology (SASSB) Conference (Jan; Rhodes Univ., SA) Tim Crowe, Owen Davies, Vincent van der Merwe
Society for Integrative and Comparative Biology (SICB) Conference (Jan; Salt Lake City, USA) Andrew McKechnie
Association of Field Ornithologists, Cooper Ornithological Society & Wilson's Ornithological Society Conference (March; Nebraska, USA) Mduduzi Ndlovu
Wildlife & Energy Symposium (March; Hebron, SA) Jess Shaw
Resilience 2011 (March; Arizona, USA) Graeme Cumming
14th South African Marine Science Symposium (April; Grahamstown, SA) Tim Cook, Lorien Pichegru, Rowen van Eeden
British Ornithologists' Union Conference on Migratory Birds (April; Leicester, UK) Claire Spottiswoode
Zoological Society Southern Africa Conference (July; Univ. Stellenbosch, SA) Graeme Cumming, Arjun Amar, Andrew McKechnie, Rowan Martin, Susie Cunningham, Steve Boyes, Felix Nchu, Ben Smit, Mduduzi Ndlovu, Lisa Nupen, Sharon Okanga
Parasitological Society of Southern Africa Conference (July; Univ. Stellenbosch, SA) Graeme Cumming, Andrew McKechnie, Felix Nchu, Sharon Okanga, Ben Smit
30th Willi Hennig International Society of Systematic Biology meeting (July/Aug; Brazil, South America) Tim Crowe, Owen Davies
ACES-Human Wildlife Conflicts Conference (Aug; Aberdeen, Scotland) Arjun Amar, Ian Little
Ecological Society of America (ESA) Conference (Aug; Texas, USA) Grant Joseph, Mduduzi Ndlovu
2nd Annual Diamond Route Research Conference (Aug; Johannesburg, SA) Andrew McKechnie, Rowan Martin, Susie Cunningham, Ben Smit
Intentionality in Animal Communication Workshop (Sept; Univ. Zurich, Switzerland) Tom Flower
6th Australasian Ornithological Congress (Sept/Oct; Cairns, Aus) Phil Hockey, Andrew McKechnie, Rowan Martin, Susie Cunningham, Ben Smit
BirdLife SA Save Our Seabirds Festival (Oct; Cape Town, SA) Phil Hockey, Peter Ryan
7th West Indian Ocean Marine Science Association (WIOMSA) Conference (Oct; Mombasa, Kenya) Tim Reid
2nd World Conference on Biological Invasions and Ecosystem Functioning

(BIOLIEF) Conference (Nov; Mar del Plata, Argentina) Doug Loewenthal
Fuller Symposium Science for Nature (Dec; Washington DC, USA) Steve Boyes

FINANCES

Audited Income and expenditure

A copy of the 2011 Income and Expenditure Statement shown below on page 28 is attached to the *Ernst & Young* Audit Report.

The 2011 annual CoE Audit was conducted during January and February 2012 and the signed Audit Report was presented to the CoE Board for approval with this Annual Report on 28 March 2012.

In general, all the auditor's queries regarding compliance were of little material significance and were clarified to the auditor's satisfaction. There were no exceptional notes which require further clarification or need to be brought to the attention of the CoE Board.

Annual CoE NRF funds carry-forward

Annual carry-forward by year, in relation to CoE income and expenditure:

Year	Income	Expenditure	Carry-forward
2004	R 2,025,067	R -158,533	R 1,866,534
2005	R 4,026,434	R -2,053,076	R 1,973,358
2006	R 4,153,458	R -2,507,744	R 1,645,714
2007	R 4,026,610	R -3,201,673	R 824,936
2008	R 3,463,943	R -2,842,616	R 621,327
2009	R 3,701,280	R -3,096,507	R 604,773
2010	R 6,363,747	R -4,845,036	R 1,518,412
2011	R 6,794,276	R -5,984,777	R 809,499

Expenditure in 2011 was within budget, but still left a carry-forward to 2012 which was due to the award of full CoE funding in late 2010 which exceeded the budget for additional funding by ca R800 000. However, a carry-forward is useful as bridging funds are invariably needed for the first month of each year, before the first CoE payment transfer for the year is made by the NRF. High January expenses are made up of commitments made late in the previous year, and more specifically, the disbursement of the first tranches of student bursaries.

The 2011 carry-forward was predicted at R1,500,000 which was included in the expected income for 2012, and the approved expenditure budget for 2012 closely accounts for the expected income, so that tight budget management will be needed to keep expenditure within budget during 2012.

Distribution of 2011 DST/NRF funding and co-funding from other sources for the CoE

The distribution of the CoE research funding (R11,296,500) for the projects funded by the CoE during 2011, according to the 2011 CoE approved budget, was analysed to reflect the proportion of additional funds allocated to CoE activities from other sources (Table 9) and the overall distribution of funds across the three focal research areas (Table 10). Research conducted by the PFIAO which is not at least part-funded by the CoE is excluded from the analysis. Likewise, the UCT remuneration of PFIAO staff, and the NRF CoE Corporate Operating budget are also not included.

Table 9. Distribution of 2011 research funds according to the source of funds.

	DST/NRF		Other sources (Table 9)	
	bursary	running	bursary	running
	2,850,000	2,689,500	1,468,000	4,209,000
Sub total		5,619,500		5,677,000
Proportion		50%		50%

Table 10. Distribution of 2011 research funds according to the fund source and the focal research areas.

Fund source	Research area	1	2	3	% within source
DST/NRF	1	1,194,000	706,500	3,308,000	23%
	2				14%
	3				63%
Other	1	275,000	1,368,000	4,034,000	5%
	2				24%
	3				71%
Total		1,469,000	2,074,500	7,342,000	
% research area		13%	20%	67%	

1 = characterising biodiversity; 2 = evolutionary ecology; 3 = maintaining biodiversity

Comments on the distribution of CoE and other funds during 2011:

1. The research funds supplied by the NRF represent 50% (R5,619,500 of R11,296,500) of the total funds allocated to research within the CoE. This proportion was boosted by the upgrade to fully funded CoE status.
2. The proportional distribution of research area funding from CoE funds is at variance with one-third funding per research area, with the greatest proportion of funding directed at conservation science (maintaining biodiversity – 67%), thus satisfying the recommendations of the 2009 review panel.

Table 11. Other funds secured in 2011 that contributed to NRF funded CoE projects

Bursary			Running			Total	Source
1	2	3	1	2	3		
					20,000	20,000	UCT URC block grant
					80,000	80,000	NRF incentive
					50,000	50,000	Frankfurt Zoological Society
			35,000			35,000	U. Copenhagen
			35,000			35,000	Hellman Fund
					50,000	50,000	NRF incentive
					195,000	195,000	Prins Bernhard Natfund
				15,000		15,000	NRF innovations Pdoc Fellow
					175,000	175,000	National Geographic
					15,000	15,000	African Bird Club
65,000						65,000	SABI
			40,000			40,000	U. Minnesota
	18,000			120,000		138,000	U. Pretoria
				650,000		650,000	EU
		90,000				90,000	Brazilian Govt
		130,000			250,000	380,000	BirdLife SA
				35,000		35,000	NRF UCT
		140,000			15,000	155,000	SANAP
		145,000			120,000	265,000	OTEP-RSPB
					100,000	100,000	U. Barcelona
					30,000	30,000	NRF UCT
					231,000	231,000	ESKOM
		30,000			130,000	160,000	ABAX
	300,000			100,000		400,000	U. Macquarie
					500,000	500,000	DOW
	130,000				400,000	530,000	Royal Society UK
		220,000			200,000	420,000	UCT URC 'hotbirds'
		100,000			618,000	718,000	WWF Netherlands
100,000						100,000	Clancey bequest

165,000 448,000 855,000 110,000 920,000 3,179,000 5,677,000

1 = characterizing biodiversity

2 = evolutionary biology

3 = maintaining biodiversity

DST/NRF CoE
Birds as Keys to Biodiversity Conservation at the Percy FitzPatrick Institute
CASH FLOW ANALYSIS FOR THE 2011 FINANCIAL YEAR

DESCRIPTION	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	TOTAL	Annual Budget	VARIANCE
NRF		2,622,212				2,622,213							5,244,425	5,244,425	0
Interest	31,440												31,440	31,440	0
Other (incl. c/f from 2010)	1,518,412												1,518,412	1,518,412	0
TOTAL INCOME	1,549,852	2,622,212	0	0	0	2,622,213	0	0	0	0	0	0	6,794,276	6,794,276	0
Salaries	-51,666	-65,301	-58,481	-62,030	-67,365	-66,698	-70,137	-64,292	-73,984	-62,138	-61,514	-92,137	-795,743	672,000	-123,743
Student costs	-672,050	-265,870	-146,530	-75,590	-65,000	-502,080	-148,000		-110,000	-76,668	-78,000	-65,000	-2,204,788	2,850,000	645,212
Conferences (incl. Travel)	-16,935	-29,900	-20,337	-16,923	-3,026	-89,510	-53,503	-43,800	-15,945	-21,562	-23,275		-334,717	282,000	-52,717
Equipment													0	0	0
Running	-140,257	-98,644	-154,344	-152,074	-118,434	-113,542	-148,455	-333,473	-237,477	-139,990	-233,622	-779,217	-2,649,530	2,966,500	316,970
TOTAL EXPENSES	-880,908	-459,715	-379,692	-306,617	-253,826	-771,830	-420,095	-441,565	-437,407	-300,359	-396,410	-936,354	-5,984,777	6,770,500	785,723
NET OUTCOME PROFIT/LOSS	668,943	2,831,440	2,451,749	2,145,132	1,891,306	3,741,689	3,321,594	2,880,029	2,442,622	2,142,263	1,745,853	809,499	809,499		

Notes:

- 1 Balance brought forwards matches previous year's Financial statement.
- 2 Shows actual expenditure only (excluding commitments) for all months
- 3 Reflects the entire costs of the CoE including satellite campuses
- 4 Regards income as positive cash flow and expenditure as negative cash flow
- 5 Emailed to AZondi@nrf.ac.za not later than 15 days after the month end

Table 12. Fitztitute CoE Financial Statement, January to December 2011

	Operating Fund	Invested Fund	All Funds
Brought forward from 2010	-392 792.37	-1 177 899.27	-1 570 691.64
Income	-5 285 279.04	-90 320.79	-5 375 599.83
NRF income	-5 244 424.50		
NRF Academy income	-30 854.54		
UCT income	-10 000		
Investment income		-90 320.79	
Net transfer value	787 000.00	-787 000.00	-
CR transfer	-2 287 000.00	-1 500 000.00	
DR transfer	1 500 000.00	2 287 000.00	
Expenditure	6 019 867.86		6 019 867.86
Salaries total	795 742.68		
Bursaries	2 200 258.00		
Conferences	303 313.88		
Other travel	898 369.17		
Equipment-vehicles	-		
Equipment-other	444 963.80		
Computers	63 035.65		
Running costs	160 240.67		
Field & lab costs	1 150 581.01		
Minor works	3 363.00		
Carry forward to 2012	-445 203.55	-481 220.06	-926 423.61
Reconciliation:			
SAP balance @ 31/12/2011	-262 503.58		
Advances in hand	-182 699.97		
	-445 203.55		

Notes:

- 1) No non-specific transfers to other collaborators were made in 2011.
- 2) All funds carried forward to 2012 include advances in hand.

Appendix 1: Publications for 2011 (CoE members in bold type)

Papers in SCI-ranked journals (69)

IF score = Thomson Scientific Impact Factor score

Characterising biodiversity (10):

Fuchs, J., Crowe, T.M. & Bowie, R.C.K. 2011. Phylogeography of the fiscal shrike (*Lanius collaris*): a novel pattern of genetic structure across the arid zones and savannas of Africa. *Journal of Biogeography* 38:2210–2222.

IF 4.273

Fuchs, J., Fjeldså, J. & Bowie, R.C.K. 2011. Diversification across an altitudinal gradient in the Tiny Greenbul (*Phyllastrephus debilis*) from the Eastern Arc Mountains of Africa. *BMC Evolutionary Biology* 11:117.

IF 3.702

Koopman, M.M. 2011. In Memoriam: Gordon Lindsay Maclean, 1937-2008. *Auk* 128:800.

IF 1.807

Mandiwana-Neudani, T.G., Kopuchian, C., Louw, G. & **Crowe, T.M.** 2011. A study of gross morphological and histological syringeal features of true francolins (Galliformes: *Francolinus*, *Scleroptila*, *Peliperdix* and *Dendroperdix* spp.) and spurfowls (*Pternistis* spp.) in a phylogenetic context. *Ostrich* 82:115-127.

IF 0.338

Melo M., Bowie R.C.K., Voelker G., Dallimer, M., Collar, N.J. & Jones, P.J. 2011. Multiple lines of evidence support the recognition of a very rare bird species: the Principe thrush. *Journal of Zoology* 282:120-129.

IP 1.787

Melo, M., Warren, B.H. & Jones, P.J. 2011. Rapid parallel evolution of aberrant traits in the diversification of the Gulf of Guinea white-eyes (Aves, Zosteropidae). *Molecular Ecology* 20:4953-4967.

IF 6.633

Oatley, G., Bowie, R.C.K. & Crowe, T.M. 2011. The use of subspecies in the systematics of southern African white-eyes: historical entities or eco-geographic variants. *Journal of Zoology, London* 284:21–30.

IF 1.787

Pons, J.-M., Oliosio, G., Cruaud, C. & **Fuchs, J.** 2011. Phylogeography of the Eurasian Green woodpecker (*Picus viridis*). *Journal of Biogeography* 38:311–325.

IF 4.273

Stoffberg, S. & **Hockey, P.A.R.** 2011. Book Review: Bats of southern and central Africa: a biogeographic and taxonomic synthesis by Ara Monadjem, Peter J. Taylor, F.P.D. (Woody) Cotterill & M. Corrie Schoeman. *South African Journal of Wildlife Research* 41:142-143.

IF 0.875

Viseshakul, N., Charoennitikul, W., Kitamura, S., **Kemp, A.,** Thong-Aree, S., Surapunpitak, Y., Poonswad, P. & Ponglikitmongkol, M. 2011. A phylogeny of frugivorous hornbills linked to the evolution of Indian plants within Asian rainforests. *Journal of Evolutionary Biology* 24:1533-1545.

IF 3.656

Evolutionary ecology (32):

Birkhead, T.R., Hemmings, N., **Spottiswoode, C.N.,** Mikulica, O., Moskát, C., Bán, M. & Schulze-Hagen, K. 2011. Internal incubation and early hatching in brood parasitic birds. *Proceedings of the Royal Society, B* 278:1019-1024.

IF 5.064

- Boyles, J.G., **Smit, B.** & **McKechnie, A.E.** 2011. A new comparative metric for estimating heterothermy in endotherms. *Physiological and Biochemical Zoology* 84:115–123.
IF 2.394
- Boyles, J.G., Seebacher, S., **Smit, B.** & **McKechnie, A.E.** 2011. Adaptive thermoregulation in endotherms may alter responses to climate change. *Integrative and Comparative Biology* 51:676-690.
IF 2.626
- Boyles, J.G., **Smit, B.** & **McKechnie, A.E.** 2011. Does use of the torpor cut-off method to analyze variation in body temperature cause more problems than it solves? *Journal of Thermal Biology* 36:373-375.
IF 1.273
- Braby, J., Underhill, L.G. & **Simmons, R.E.** 2011. Prey capture success and chick diet of Damara Terns *Sterna baleanarum* in Namibia. *African Journal of Marine Science* 33(2):247-254.
IF 1.229
- Covas, R.**, Deville, A.S., Doutrelant, C., **Spottiswoode, C.N.** & Gregoire, A. 2011. The effect of helpers on the postfledging period in a cooperatively breeding bird, the sociable weaver. *Animal Behaviour* 81:121-126.
IF 3.101
- Cunningham S.J.**, Alley, M.R., & Castro, I. 2011. Facial bristle feather histology and morphology in New Zealand birds: implications for function. *Journal of Morphology* 272:118-218.
IF 1.773
- Cunningham, S.J.** & Castro, I. 2011. The secret life of wild brown kiwi: studying behaviour of a cryptic species by direct observation. *New Zealand Journal of Ecology* 35:209-219.
IF 1.286
- Doutrelant, C., Dalecky, A. & **Covas, R.** 2011. Age and relatedness have an interactive effect on the feeding behaviour of helpers in cooperatively breeding sociable weavers. *Behaviour* 148:1399-1417.
IF 1.48
- Flower, T.** 2011. Fork-tailed drongos use deceptive mimicked alarm calls to steal food. *Proceedings of the Royal Society B-Biological Sciences*. 278:1548-1555.
IF 5.064
- Fort, J., Porter, W.P. & **Grémillet, D.** 2011. Energetic modelling: a comparison of the different approaches used in seabirds. *Comparative Biochemistry and Physiology, Part A* 158:358-365.
IF 2.196
- González-Solís, J., Smyrli, M., Militão, T., **Grémillet, D.**, Tveraa, T., Phillips, R.A. & Boulinier, T. 2011. Combining stable isotope analyses and geolocation to reveal kittiwake migration. *Marine Ecology Progress Series* 435:251-261.
IF 2.483
- Hollén, L.I., Bell, M.B.V., Russell, A., Niven, F., **Ridley, A.R.** & Radford, A.N. 2011. Calling by concluding sentinels: coordinating cooperation or revealing risk? *Plos One* 6(10):e25010.
IF 4.411
- Hollén, L.I., Bell, M.B.V., Wade, H.M., Rose, R., Russell, A., Niven, F., **Ridley, A.R.** & Radford, A.N. 2011. Ecological conditions influence sentinel decisions. *Animal Behaviour* 82:1435-1441.
IF 3.100
- Martin, T.E., **Lloyd, P.**, Bosque, C., Barton, D.C., Biancucci, A.L., Cheng, Y.-R. & Ton, R. 2011. Growth rate variation among passerine species in tropical and temperate sites: an antagonistic interaction between parental food provisioning and nest predation risk. *Evolution* 65:1607-1622.
IF 5.659

- Musvuugwa, T. & **Hockey, P.A.R.** 2011. Latitudinal patterns of reproductive effort in gamebirds and waterfowl: bucking the trend? *Ibis* 153:165-169.
IF 2.295
- Nchu, F.**, Githiori, J.B., McGaw, L.J. & Eloff, J.N. 2011. Anthelmintic and cytotoxic activities of extracts of *Markhamia obtusifolia* Sprague (Bignoniaceae). *Veterinary Parasitology* 183:184-188.
IF 2.331
- Nelson-Flower, M.J., Hockey, P.A.R.**, O'Ryan, C., Raihani, N.J., du Plessis, M.A. & **Ridley, A.R.** 2011. Monogamous dominant pairs monopolize reproduction in the cooperatively breeding pied babbler. *Behavioural Ecology* 22:559-565.
IF 2.926
- Pichegru, L.**, Ropert-Coudert, Y., Kato, A., Takahashi, A., Dyer, B.M. & **Ryan, P.G.** 2011. Diving patterns of female macaroni penguins breeding on Marion Island, South Africa. *Polar Biology* 34:945-954.
IF 1.445
- Radford, A.N., Bell, M.B.V., Hollén, L.I. & **Ridley, A.R.** 2011. Singing for your supper: sentinel calling by kleptoparasites can mitigate the cost to victims. *Evolution* 65-3: 900-906.
IF 5.659
- Ribeiro, A.M., Lloyd, P. & Bowie, R.C.K.** 2011. A tight balance between natural selection and gene flow in a southern African arid-zone endemic bird. *Evolution* 65:3499-3514.
IF 5.659
- Ridley, A.R. & Thompson, A.M.** 2011. Heterospecific egg destruction by Wattled Starlings and the impact on Pied Babbler reproductive success. *Ostrich* 82:201-205.
IF 0.338
- Robson, B., Glass, T., Glass, N., Glass, J., Green, J., Repetto, C., Rodgers, G., Ronconi, R.A., **Ryan, P.G.**, Swain, G. & Cuthbert, R.J. 2011. Revised population estimate and trends for the Endangered Northern Rockhopper Penguin *Eudyptes moseleyi* at Tristan da Cunha. *Bird Conservation International* 21:454-459.
IF 1.138
- Ryan, P.G. & Ronconi, R.A.** 2011. Continued increase in numbers of Spectacled Petrels *Procellaria conspicillata*. *Antarctic Science* 23:332-336.
IF 1.328
- Ryan, P.G.**, Glass, N. & Ronconi, R.A. 2011. The plants and birds of Stoltenhoff and Middle Islands, Tristan da Cunha. *Polar Record* 47:86-89.
IF 0.889
- Smit, B.**, Boyles, J.G., Brigham, R.M. & **McKechnie, A.E.** 2011. Torpor in dark times: patterns of heterothermy are associated with the lunar cycle in a nocturnal bird. *Journal of Biological Rhythms* 26:241-248.
IF 3.309
- Spottiswoode, C.N. & Stevens, M.** 2011. How to evade a coevolving brood parasite: egg discrimination versus egg variability as host defences. *Proceedings of the Royal Society B* 278: 3566-3573.
IF 5.064
- Spottiswoode, C.N.**, Stryjewski, K.F., Quader, S., Colebrook-Robjent, J.F.R. & Sorenson, M.D. 2011. Ancient host specificity within a single species of brood parasitic bird. *Proceedings of the National Academy of Sciences* 108:17738-17742.
IF 9.771
- Wakelin, J., **McKechnie, A.E.** & Woodborne, S. 2011. Stable isotope analysis of migratory connections in a threatened intra-African migrant, the Blue Swallow (*Hirundo atrocaerulea*). *Journal of Ornithology* 152:171-177,
IF 1.297

White, C.R., Boertmann, D., **Grémillet, D.**, Butler, P.J., Green, J.A. & Martin, G.R. 2011. The relationship between sea surface temperature and population change of Great Cormorants *Phalacrocorax carbo* breeding near Disko Bay, Greenland. *Ibis* 153:170-174.
IF 1.808

White, C.R., **Grémillet, D.**, Green, J.A., Martin, G.R. & Butler, P.J. 2011. Metabolic rate throughout the annual cycle reveals the demands of an Arctic existence in Great Cormorants. *Ecology* 92:475-486.
IF 5.073

Wright, K.L.B., **Pichegru, L.** & **Ryan, P.G.** 2011. Penguins are attracted to dimethyl sulphide at sea. *Journal of Experimental Biology* 214:2509-2511.
IF 3.04

Maintaining biodiversity (27):

Allen, C.R., **Cumming, G.S.**, Garmestani, A.S., Taylor, P.D. & Walker, B.H. 2011. Managing for resilience. *Wildlife Biology* 17(4):337-349
IF 0.697

Amar, A., Grant, M., Buchanan, G., Sim, I., Wilson, Jared , Pearce-Higgins, J.W. & Redpath, S. 2011. Exploring the relationships between wader declines and current land-use in the British uplands. *Bird Study* 58:13-26.
IF 1.011

Caron, A., Abolnik, C., Mundava, J., Gaidet, N., Burger, C.E., Mochotlhoane, B., Bruinzeel, L., Chiweshe, N., de Garine-Wichatitsky, M. & **Cumming G.S.** 2011. Persistence of Low Pathogenic Avian Influenza Virus in Waterfowl in a Southern African Ecosystem. *Ecohealth* 8:109-115.
IF 1.64

Caron, A., de Garine-Wichatitsky, M., Gaidet, N., Abolnik, C. & **Cumming, G.** 2011. Estimating and validating a dynamic risk factor model for pathogen transmission using community-level bird census data: avian influenza at the waterfowl/domestic bird interface in Zimbabwe. *Ecohealth* 7:S121-S121 Suppl. 1
IF 1.64

Crawford, R.J.M., Altwegg, R., Barham, B.J., Barham, P.J., Durant, J.M., Dyer, B.M., Geldenhuys, D., Makhado, A.B., **Pichegru, L.**, **Ryan, P.G.**, Underhill, L.G., Upfold, L., Visagie, J., Waller, L.J. & Whittington, P.A. 2011. Collapse of South Africa's penguins in the early 21st century. *African Journal of Marine Science* 2011, 33: 139–156.
IF 1.229

Cumming, G.S. 2011. The resilience of big river basins. *Water International* 36:63-95.
IF 0.533

Cumming, G.S. 2011. Spatial resilience: integrating landscape ecology, resilience, and sustainability. *Landscape Ecology* 26:899-909.
IF 3.200

Cumming, G.S., Caron, A., Abolnik, C., Cattoli, G., Bruinzeel, L.W., Burger, C.E., Cecchetti, K., Chiweshe, N., Mochotlhoane, B., **Mutumi, G.L.** & **Ndlovu, M.** 2011. The ecology of Influenza A viruses in wild birds in southern Africa. *Ecohealth* 8:4-13.
IF 1.640

Cumming, G.S. & **Ndlovu, M.** 2011. Satellite telemetry of Afrotropical ducks: methodological details and assessment of success rates. *African Zoology* 46:425–434.
IF 1.018

Cuthbert, R.J., Visser, P., Louw, H. & **Ryan, P.G.** 2011. Palatability and efficacy of rodent baits for eradicating house mice (*Mus musculus*) from Gough Island, Tristan da Cunha, *Wildlife Research* 38:196-203.
IF 1.205

Grémillet, D. & Lescroël, A. 2011. Libyan uprising may boost bluefin tuna. *Nature* 472:169.
IF 36.101

Hockey, P.A.R., Sirami, C., **Ridley, A.R.**, Midgley, G.F. & Babiker, H.A. 2011. Interrogating recent range changes in South African birds: confounding signals from land use and climate change present a challenge for attribution. *Diversity and Distributions* 17:254-261.
IF 4.248

Hockey, P.A.R., **Wanless, R.M.** & von Brandis, R. 2011. Demographic resilience of territorial island birds to extinction: the flightless Aldabra Rail (*Dryolimnas [cuvierii] aldabranus*) as an example. *Ostrich* 82:1-9.
IF 0.338

Jenkins, A.R., **Shaw, J.M.**, Smallie, J.J., Gibbons, B., Visagie, R. & **Ryan, P.G.** 2011. Estimating the impacts of power line collisions on Ludwig's Bustards *Neotis ludwigii*. *Bird Conservation International* 21:303-310.
IF 1.138

Joseph, G., **Cumming, G.S.**, **Cumming, D.H.M.**, Mahlangu, Z., Altwegg, R. & **Seymour, C.** 2011. Large termitaria act as refugia for tall trees, deadwood and cavity-using birds in a miombo woodland. *Landscape Ecology* 26:439-448.
IF 3.200

Karnovsky, N.J., Brown, Z.W., Welcker, J., Harding, A.M.A., Walkusz, W., Cavalcanti, A., Hardin, J., Kitaysky, A., Gabrielsen, G. & **Grémillet, D.** 2011. Inter-colony comparison of diving behavior of an Arctic top predator: implications for warming in the Greenland Sea. *Marine Ecology Progress Series* 440:229-240,
IF 2.483

Lescroël, A. & **Grémillet, D.** 2011. Fishery threatens protected ocean. *Nature* 479:299.
IF 36.101

MacGregor, L.H., **Cumming, G.S.** & **Hockey, P.A.R.** 2011. Understanding pathogen transmission dynamics in waterbird communities: at what scale should interactions be studied? *South African Journal of Science* 107: 56-65.
IF 0.596

Martin, R. 2011. Book Review: Effects of Climate Change on Birds. *Ostrich* 82: 249-250.
IF 0.338

Mills, M.S. L. , Olmos, F. , **Melo, M.** & **Dean, W.R.J.** 2011. Mount Moco: its importance to the conservation of Swierstra's Francolin *Pternistis swierstrai* and the Afromontane avifauna of Angola. *Bird Conservation International* 21:119-133.
IF 1.138

Ndhlovu, T., **Milton-Dean, S.J.** & Esler, K.J. 2011. Impact of *Prosopis* (mesquite) invasion and clearing on the grazing capacity of semiarid Nama Karoo rangeland, *South Africa, African Journal of Range & Forage Science*, 28:129-137.
IF 0.262

Osofsky, S., Atkinson, M., **Cumming, D.** & Kock, M. 2011. One health policy option for biodiversity, livelihoods and transboundary disease management in Southern Africa. *Ecohealth* 7:S93-S94 Suppl. 1 (Abstract)
IF 1.640

Pryke, J.S., Samways, M.J. & **Hockey, P.A.R.** 2011. Persistence of the threatened Knysna warbler *Bradypterus sylvaticus* in an urban landscape: do gardens substitute for fire? *African Journal of Ecology* 49:199-208.
IF 0.778

Puttick, J.R., Hoffman, M.T. & Gambiza, J. 2011. Historical and recent land-use impacts on the vegetation of Bathurst, a municipal commonage in the Eastern Cape, South Africa. *African Journal of Range & Forage Science* 28:9-20.
IF 0.262

Simmons, R.E. 2011. Greater Kestrel survives impact with power lines. *Ostrich* 82:75-76.
IF 0.338

Tuck, G.N., Phillips, R.A., Small, C., Thomson, R.B., Klaer, N.L., Taylor, F., **Wanless, R.M.** & Arrizabalaga, H. 2011. An assessment of seabird–fishery interactions in the Atlantic Ocean. *ICES Journal of Marine Science* 68:1628–1637.
IF 1.808

Valeix, M., Fritz, H., Sabatier, R., Murindagomo, F., **Cumming, D.**, & Duncan, P. 2011. Elephant-induced structural changes in the vegetation and habitat selection by large herbivores in an African savanna. *Biological Conservation* 144:902-912.
IF 3.498

Papers in non SCI-ranked journals (16)

Characterising biodiversity (3):

Crowe, T. 2011. What kind of fowl am I? Poultry in motion. Proceedings of the Congresses of the Southern African Society for Systematic Biology, Grahamstown 19-21st January 2011, hosted by the Department of Zoology and Entomology, Rhodes University. (Abstract)

Davies, O.R., Crowe, T.M. & Bowie, R. 2011. Taxonomy, systematic and biogeography of ‘marsh cisticolas’, *Cisticola* spp. Proceedings of the Congresses of the Southern African Society for Systematic Biology, Grahamstown 19-21st January 2011, hosted by the Department of Zoology and Entomology, Rhodes University. (Abstract)

Van der Merwe, V.C. 2011. The vicariance biogeography of terrestrial gamebirds (Galliformes). Proceedings of the Congresses of the Southern African Society for Systematic Biology, Grahamstown 19-21st January 2011, hosted by the Department of Zoology and Entomology, Rhodes University. (Abstract)

Evolutionary ecology (4)

Mills, M.S.L., Melo, M. & Vaz, A. 2011. Black-tailed Cisticola *Cisticola melanurus* in eastern Angola: behavioural notes and the first photographs and sound-recordings. *Bulletin of the African Bird Club* 18:193-198.

Mills, M.S.L., Melo, M., Borrow, N. & Vaz Pinto, P. 2011. The endangered Braun’s Bushshrike *Laniarius brauni*: a summary. *Bulletin of the African Bird Club* 18:193-198.

Mills, M.S.L. & Vaz, A. 2011. The nest and eggs of Margaret’s Batis *Batis margaritae*. *Bulletin of the British Ornithologists’ Club* 131:208-210.

Ndlovu, M., Cumming, G.S. & Hockey, P.A.R. 2011. Phenotypic flexibility in African waterfowl during moult. The Preliminary Program for 96th ESA Annual Meeting (August 7-12, 2011)

Maintaining biodiversity (9)

Atkinson, M.W., Kock, M.D., **Cumming, D.H.M.** & Osofsky, S.A. 2011. Land-Use Paradigms, Wildlife and Livestock: Policy Options for Biodiversity, Livelihoods and Transboundary Disease Management in Southern Africa, Abstr., CD-ROM *Proceedings of the 30th World Veterinary Congress*, Cape Town, South Africa. p 274.

Atkinson M.W., Kock M.D., **Cumming D.H.M.** & Osofsky S. A. 2011. Land-use paradigms, wildlife and livestock: challenges, choices and potential ways forward. *OIE Global Conference on Wildlife. Animal health and biodiversity - preparing for the future*. Paris, France.

Biggs, D., **Turpie, J.**, Fabricius, C. & Spenceley, A. 2011. The value of avitourism for conservation and job creation - an analysis from South Africa. *Conservation and Society* 9:80-90.

Cooper, J., Cuthbert, R.J., N.J.M. Gremmen, N.J.M., **Ryan, P.G.** & **Shaw, J.D.** 2011. Earth, fire and water: applying novel techniques to eradicate the invasive plant, procumbent pearlwort *Sagina procumbens*, on Gough Island, a World Heritage Site in the South Atlantic. In Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.). 2011. Proceedings of the Conference on Island invasives: eradication and management. IUCN, Gland, Switzerland.

Cumming, D.H.M., Kock, M.D. & Osofsky, S.A. 2011. One Health and the Great Limpopo Transfrontier Conservation Area (GLTFCA): Progress, Problems and Prospects, Abstr., CD-ROM *Proceedings of the 30th World Veterinary Congress*, Cape Town, South Africa. pp 232.

Cuthbert, R.J., Visser, P., Louw, H., Rexer-Huber, K., Parker, G., & **Ryan, P.G.** 2011. Preparations for the eradication of mice from Gough Island: results of bait acceptance trials above ground and around cave systems. In Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.). 2011. Proceedings of the Conference on Island invasives: eradication and management. IUCN, Gland, Switzerland.

Osofsky, S., Atkinson, M., **Cumming, D.** & Kock, M. 2011. One Health Policy Options for Biodiversity, Livelihoods and Transboundary Disease Management in Southern Africa. First International One Health Congress, Melbourne, Australia. *EcoHealth* 7 (suppl. 1): S93-S94

Scott, H.A., **Dean, W.R.J.** & Watson, L.H. 2011. Breeding success and changes in numbers of African Black Oystercatchers *Haematopus moquini* in relation to habitat quality and protection status. *Marine Ornithology* 39: 189–199.

Southworth, J., Marsik, M., Qiu, Y., Perz, S., **Cumming, G.S.**, Stevens, F., Rocha, K., Duchelle, A. & Barnes, G. 2011. Roads as drivers of change: trajectories across the tri-national frontier in MAP, the Southwestern Amazon. *Remote Sensing* 3:1047-1066.

Semi-popular articles (43)

Barnard, P. 2011. Civil society participation projects identify Red Data species that are falling through the cracks. *uGREAT News*, Newsletter of the South African National Biodiversity Institute, December 2011:1.

Barnard, P. 2011. Ringed endemics in your garden...? *Promerops* 287:9.

Boyes, R.S. 2011. Red Alert, Focus on South Africa's threatened birds: Cape Parrot. *Africa Birds & Birding* 16(4):66-67.

Gwynn, L. 2011. Cracking the 'Mystery Buzzard' code. *Promerops* 288:8.

Hockey, P. 2011. Red alert. Focus on South Africa's threatened birds: Burchell's Courser. *Africa Birds & Birding* 16(1):52.

Hockey, P. 2011. Red alert. Focus on South Africa's threatened birds: Black-winged Pratincole. *Africa Birds & Birding* 16(1):54-55.

Hockey, P.A.R. 2010. Townies and city slickers. *Wild* 13 (Summer 2010/2011):66-68.

Hockey, P.A.R. 2011. Singing in the brain. *Wild* 14 (Autumn 2011):54-57.

Hockey, P.A.R. 2011. A winter's tale. *Wild* 15 (Winter 2011):58-60.

- Hockey, P.A.R. 2011. Bite size. *Wild* 16 (Spring 2011):60-62.
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- McKechnie, A. 2011. Hot stuff: male tit-babblers' warming ways. *Africa Birds & Birding* 16(4):15.
- McKechnie, A. 2011. Rainy days for the Mauritius Kestrel? *Africa Birds & Birding* 16(5):17.
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- PFIAO. 2011. New research boat tracks African Penguins' prey. *Africa Birds & Birding* 16(5):24.
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- Ryan, P. 2011. Slip sliding away: birds on the move. *Africa Birds & Birding* 16(1):30-34.
- Ryan, P. 2011. Book Review: The biggest Twitch by Alan Davies & Ruth Miller. *Africa Birds & Birding* 16(2):21.
- Ryan, P. 2011. Subantarctic Skuas in trouble? *Africa Birds & Birding* 16(3):14.
- Ryan, P. 2011. Tracking the longest migration. *Africa Birds & Birding* 16(3):15.
- Ryan, P. 2011. Crisis in Utopia. *Africa Birds & Birding* 16(3):16-17.
- Ryan, P. 2011. Rare shorebirds. *Promerops* 286:15.
- Ryan, P. 2011. False Bay feeding frenzies. *Promerops* 287:14.
- Ryan, P. 2011. Unexpected Prion record. *Promerops* 287:16.
- Ryan, P. 2011. Leucistic Cape Siskin. *Promerops* 287:17.
- Ryan, P. 2011. Fork-tailed Drongos feeding with Ostriches. *Promerops* 288:17.
- Ryan, P. 2011. Striped Flufftails in the Klein Drakenstein Mountains. *Promerops* 287:18.
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- Wanless, R. & Reid, T. 2011. Have seeds, will travel: sub-Antarctic spikeballs & bird-eating trees. *Africa Birds & Birding* 16(5):20-21.
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Books and Chapters in Books (5)

- Collier, J. & **Cumming, G.S.** 2011. A dynamical approach to ecosystem identity. In: Brown, B., de Laplante, K., and Peacock, K. (eds). *Philosophy of Ecology Handbook*. Volume 11 in the *Handbook of the Philosophy of Science*. Elsevier. 444 p.; pp. 201-218.
- Cumming, G.S.** 2011. Spatial resilience in social-ecological systems. Springer, XII, 243 p. 25 illus. in colour., Hardcover ISBN: 978-94-007-0306-3.
- Hockey, P.A.R.** 2011. Birds. In: Picker M, Griffiths C. *Alien and Invasive Animals: a South African Perspective*. Cape Town, Struik Nature. 240p. pp 36-44.
- Koopman, M.M.** & Dowsett, R.J. 2011. The Ostrich. In: *Priority! The dating of scientific names in ornithology: a directory to the literature and its reviewers* compiled by E.C. Dickinson, L.K. Overstreet, R.J. Dowsett & M.D. Bruce. Aves Press, Northampton, U.K., pp. 229-230.
- Little, R.M. & Crowe, T.M.** 2011. *Gamebirds of Southern Africa*. 2nd edition. Random House Struik, Cape Town. 135p. ISBN 9781770079892.

Appendix 2. The most cited FitzPatrick Institute papers analyzed using the *Web of Science*.

Top 10 Citations 2005 – 2011

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320(5884):1763-1768. IF 28.103
285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927
283 Citations

Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2 (4): 543-U1. IF 2.000
173 Citations

Balmford, A., Crane, P., Dobson A., Green, R.E. & Mace, G.M. 2005. The 2010 challenge: Data availability, information needs and extraterrestrial insights. *Philosophical Transactions of the Royal Society B-Biological Sciences* 360: 221-228. IF 4.997
84 Citations

Archibald, S., Bond, W.J., Stock, W.D. & **Fairbanks, D.H.K.** 2005. Shaping the landscape: Fire-grazer interactions in an African savanna. *Ecological Applications* 15: 96-109. IF 3.804
74 citations

Dobson,A., Lodge,D., Alder,J., **Cumming,G.S.**, Keymer,J., McGlade,J., Mooney,H., Rusak,J.A., Sala,O., Wolters,V., Wall,D., Winfree,R. & Xenopoulos, M.A. 2006. Habitat loss, trophic collapse, and the decline of ecosystem services. *Ecology* 87(8):1915–1924. IF 4.782
72 Citations

McKechnie, A.E., Freckleton, R.P. & Jetz, W. 2006. Phenotypic plasticity in the scaling of avian basal metabolic rate. *Proceedings of the Royal Society B* 273:931-937. IF 3.612
71 Citations

Balmford, A. & Bond, W. 2005. Trends in the state of nature and implications for human well-being. *Ecology Letters*. 8: 1218-1234. IF 5.151
70 Citations

Houlihan, J.E., Currie, D.J., Cottenie, K., **Cumming, G.S.**, Ernest, S.K.M., Findlay, C.S., Fuhlendorf, S.D., Gaedke, U., Legendre, P., Magnuson, J.J., McArdle, B.H., Muldavin, E.H., Noble, D., Russell, R., Stevens, R.D., Willis, T.J., Woiwod, I.P. & Wondzell, S.M. 2007. Compensatory dynamics are rare in natural ecological communities. *Proceedings of the National Academy of Sciences* 104:3273-3277. IF 9.598
65 Citations

Beresford, P., Barker, F.K., **Ryan, P.G.** & **Crowe, T.M.** 2005. African endemics span the tree of songbirds (Passeri): molecular systematics of several evolutionary 'enigmas'. *Proceedings of the Royal Society B* 272:849-858. IF 3.510
63 Citations

Top 10 Citations 2000 - 2011

Richardson, D.M., Allsopp, N., D'Antonio, C.M., **Milton, S.J.**, Rejmanek, M. 2000. Plant invasions: the role of mutualisms. *Biological Reviews of the Cambridge Philosophical Society* 75:65-93. IF 5.303
466 Citations

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320(5884):1763-1768. IF 28.103
285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927
283 Citations

Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2 (4): 543-U1. IF 2.000
173 Citations

Brashares, J.S., Arcese, P., Sam, M.K., Coppolillo, P.B., Sinclair, A.R.E. & **Balmford, A.** 2004. Bushmeat hunting, wildlife declines, and fish supply in West Africa. *Science* 306:1180-1183. IF 31.853
107 Citations

Prendini, L. 2001. Species or supraspecific taxa as terminals in cladistic analysis? Groundplans versus exemplars revisited. *Systematic Biology* 50:290-300. IF 7.651
101 Citations

Prendini, L. 2000. Phylogeny and classification of the superfamily Scorpionoidea Latreille 1802 (Chelicerata, Scorpiones): An exemplar approach. *Cladistics* 16:1-78. IF 5.529
96 Citations

Turpie, J.K., Beckley, L.E. & Katua, S.M. 2000. Biogeography and the selection of priority areas for conservation of South African coastal fishes. *Biological Conservation* 92:59-72. IF 1.689
86 Citations

Nel, D.C., Lutjeharms, J.R.E., Pakhomov, E.A., Ansorge, I.J., **Ryan, P.G.** & Klages, N.T.W. 2001. Exploitation of mesoscale oceanographic features by grey-headed albatross *Thalassarche chrysostoma* in the southern Indian Ocean. *Marine Ecology Progress Series* 217:15-26. IF 1.903
84 Citations

Balmford, A., Crane, P., Dobson A, Green, R.E. & Mace, G.M. 2005. The 2010 challenge: Data availability, information needs and extraterrestrial insights. *Philosophical Transactions of the Royal Society B-Biological Sciences* 360: 221-228. IF 4.997
84 Citations

Top 10 Citations 1960 - 2011

Richardson, D.M., Allsopp, N., D'Antonio, C.M., **Milton, S.J.**, Rejmanek, M. 2000. Plant invasions: the role of mutualisms. *Biological Reviews of the Cambridge Philosophical Society* 75:65-93. IF 5.303
466 Citations

Hackett, S.J., Kimball, R.T., Reddy, S., **Bowie, R.C.K.**, Braun, E.L., Braun, M.J., Chojnowski, J.L., Cox, W.A., Han, K.-L., Harshman, J., Huddleston, C.J., Marks, B.D., Miglia, K.J., Moore, W.S., Sheldon, F.H., Steadman, D.W., Witt, C.C. & Yuri, T. 2008. A phylogenomic study of birds reveals their evolutionary history. *Science* 320(5884):1763-1768. IF 28.103
285 Citations

Green, R.E., Cornell, .S.J., Scharlemann, J.P.W. & **Balmford, A.** 2005. Farming and the fate of wild nature. *Science* 307: 550-555. IF 30.927
283 Citations

Wilson, R.P. 1984. An improved stomach pump for penguins and other seabirds. *Journal of Field Ornithology* 55: 109-112. IF 0.370 (1991)
211 Citations

Furness, R.W., Muirhead, S.J. & Woodburn, M. 1986. Using bird feathers to measure mercury in the environment: relationships between mercury content and moult. *Marine Pollution Bulletin* 17: 27-30. IF 1.317 (1998)
189 Citations

Wilson, R.P., Grant, W.S. & **Duffy, D.C.** 1986. Recording devices on free-ranging marine animals: does measurement affect foraging performance? *Ecology* 67: 1091-1093. IF 2.588 (1991)
179 Citations

Ericson, P.G. P., Anderson, C.L., Britton, T., Elzanowski, A., **Johansson, U.S.**, Kallersjo, M., Ohlson, J.I., Parsons, T.J., Zuccon, D. & Mayr, G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. *Biology Letters* 2 (4): 543-U1. IF 2.000
173 Citations

Chapin, F.S., Sala, O.E., Burke, I.C., Grime, J.P., Hooper, D.U., Lauenroth, W.K., **Lombard, A.**, Mooney, H.A., Mosier, A.R., Naeem, S., Pacala, S.W., Roy, J., Steffen, W.L. & Tilman, D. 1998. Ecosystem consequences of changing biodiversity: experimental evidence and a research agenda for the future. *Bioscience* 48:45-52. IF 2.983
157 citations

Milton, S.J., **Dean, W.R.J.**, **Du Plessis, M.A.** & **Siegfried, W.R.** 1994. A conceptual model of arid rangeland degradation: the escalating cost of declining productivity. *BioScience* 44:70-76. IF 2.041
142 Citations

Jeltsch, F., **Milton, S.J.**, **Dean, W.R.J.** & Van Rooyen, N. 1996. Tree spacing and coexistence in semiarid savannas. *Journal of Ecology* 84:583-595. IF 3.040
134 Citations

Appendix 3: Publication outputs since 2004 by individual members of the CoE

Publications are listed as: first-authored (1st) or co-authored (2nd) papers in SCI-rated journals; papers in unrated journals (unrated); and semi-popular articles (popular).

Name	Degree	1st year	Depart year	Gender	Race	Publications			
						1 st	2 nd	unrated	popular
Mandiwana	Staff/PhD	2004	2011	F	B	2	1		
O’Ryan	Staff	2006		F	B		1		
Bloomer	Staff	2004		F	W		4		1
Milton	Staff	2004	2010	F	W	4	17	11	1
Turpie	Staff	2004	2010	F	W	1	4	6	
Amar	Staff	2010		M	W	1			
Bowie	Staff	2004		M	W	6	27	1	1
Crowe	Staff	2004		M	W	3	22	3	3
Cumming	Staff	2006		M	W	13	18	4	2
Dean	Staff	2004	2007	M	W	9	16	25	1
Du Plessis	Staff	2004	2007	M	W	2	16		14
Gremillet	Staff	2005		M	W		7		
Hockey	Staff	2004		M	W	5	21	4	43
Jenkins	Staff	2005		M	W	3	4	3	30
Little	Staff	2009		M	W	2			3
Lloyd	Staff	2004	2009	M	W	9	8		2
McKechnie	Staff	2004		M	W	7	11	2	28
Mills	Staff	2010		M	W	1		3	1
Ryan	Staff	2004		M	W	21	62	21	101
Simmons	Staff	2004		M	W	10	5	6	25
Covas	Postdoc	2004		F	W	4	5		1
Cunningham	Postdoc	2010		F	W	2			
Eising	Postdoc	2005	2006	F	W	2	1		
Nelson-Flower	Postdoc	2012		F	W	1	3		
Pichegru	Postdoc	2008		F	W	5	7		3
Ridley	Postdoc	2005		F	W	11	17		5
Rondon	Postdoc	2008	2010	F	W	1			
Roxburgh	Postdoc	2005	2007	F	W	2		1	2
Spottiswoode	Postdoc	2005		F	W	11	7	1	2
Techow	Postdoc	2008		F	W	1			
Nchu	Postdoc	2009	2011	M	B	1			
Boyes	Postdoc	2009		M	W	5	1		3
Bruinzeel	Postdoc	2007	2009	M	W		2		
Cook	Postdoc	2009		M	W	2	1		
Delport	Postdoc	2005	2007	M	W	3	2		1
De Melo	Postdoc	2008		M	W	4	5	4	1
Fuchs	Postdoc	2007	2010	M	W	6	4		1
Flower	Postdoc	2012		M	W	1			
Johannson	Postdoc	2005	2008	M	W	2	3		
Loewenthal	Postdoc	1998	2011	M	W				4
Martin	Postdoc	2009		M	W	1			
Oatley	Postdoc	2011		M	W	1			
Radford	Postdoc	2004	2006	M	W	9	2		1
Reid	Postdoc	2010		M	W				2
Taylor	Postdoc	2005	2007	M	W	2	1		
Chaskda	PhD	2007	2011	M	B				

Kaliba	CB PhD	2007	2011	M	B				
Lokugalapapatti	PhD	2005	2011	M	B		2		
Baraquete	PhD	2007		F	W		1		
Jones	PhD	2007	2011	F	W	1	1		1
Nupen	CB PhD	2008		F	W		2		
Petersen	PhD	2004	2007	F	W	4	4	8	1
Ribiero	PhD	2007	2011	F	W	1			
Raihani	PhD	2004		F	W	5	4		1
Seymour	PhD	1999	2006	F	W	3	1		
Shaw	CB PhD	2008		F	W	2	3	1	
Techow	PhD	2002	2007	F	W	1	1		1
Barnes	PhD	1998	2007	M	W				
Cohen	PhD	1999	2011	M	W	1	2	1	9
Davies	MSc-PhD	2008		M	W	1	1	1	
Joseph	CB PhD	2007		M	W	1	2		
Little	CB PhD	2007	2011	M	W	1		1	
Smit	MSc-PhD	2007		M	W	3	4		2
Thompson	MSc-PhD	2010		M	W		2		1
Wanless	PhD	2004	2007	M	W	8	7	1	11
Ndlovu	MSc	2007		M	B	1	2	1	
Mtumi	MSc	2008	2010	M	B		1		
Curtis	MSc	2003	2005	F	W	2	1	1	4
Lannas	MSc	2007	2009	F	W	1			
Biggs	MSc	2004	2006	M	W				2
Gwynn	MSc	2011		M	W				1
Mao	MSc CB	2004	2005	M	B				1
Owino	MSc CB	2004	2005	M	B	1			
Suinyuy	MSc CB	2005	2006	M	B		1		
Baudains	MSc CB	2005	2006	F	W	1			
Cordingley	MSc CB	2008	2009	F	W		1		
Farmer	MSc CB	2004	2005	F	W	1			
Fox	MSc CB	2005	2006	F	W	1			
Jenkins	MSc CB	2006	2007	F	W			2	
Lauret-Stepler	MSc CB	2005	2006	F	W			1	
Lipsey	MSc CB	2007	2008	F	W	1			
MacGregor	MSc CB	2006	2007	F	W	1			
McDonell	MSc CB	2005	2006	F	W		1		
Napier	MSc CB	2004	2005	F	W	1			
Nupen	MSc CB	2006	2007	F	W				
Okes	MSc CB	2007	2008	F	W	2	1		
Stephen	MSc CB	2005	2006	F	W	1			
Thomas	MSc CB	2006	2007	F	W	1			
Child	MSc CB	2007	2008	M	W	3	4		
Dures	MSc CB	2008	2009	M	W	1			
Louw	MSc CB	2004	2005	M	W			1	
Meek	MSc CB	2008	2009	M	W	1			