DST-NRF CENTRE OF EXCELLENCE
Birds as Keys to Biodiversity Conservation at the Percy FitzPatrick Institute

ANNUAL PROGRESS REPORT & GATE REVIEW

Reporting Period
From: 13 September 2004
To: 31 December 2004

CONTENTS

Identification

Name of Director	:	Morné A. du Plessis
Name of CoE	:	DST-NRF CoE in Birds as Keys to Biodiversity Conservation at the Percy FitzPatrick Institute
Abbreviated CoE Name	:	CoE at the Percy FitzPatrick Institute
Host institution	:	University of Cape Town
Date completed	:	21 February 2005

EXECUTIVE SUMMARY

1. **Financial Information (Funding of the CoE)**

Total NRF funding for 2004	:	R 2,000,000
Funding from Host institution in 2004	:	R 288,194*
Funding from other sources for the CoE in 2004	:	R 189,875*
Total funding	:	R 2,478,069

*see table under Finances for details (p 19)

2. **Summary of progress against 5 KPAs**. (Please limit your responses to completed tasks or work in progress and exclude plans for the future.)

(i) **Research** (Maximum 5 lines)
The research strategy was refined, and a selection process established and completed to assess and approve a subset of research projects for CoE funding through 2005. A total of 20 peer-reviewed papers carrying the CoE address were published or accepted for publication in SCI-ranked journals in 2004. We are on track to meeting and exceeding initial output targets.

(ii) **Education and Training** (Maximum 5 lines)
Seventeen postgraduate students (29% black and 53% women) were at least partially supported within the CoE in 2004. During 2005, 24 postgraduate students (29% black and 50% women) and up to seven postdoctoral associates will be supported. Two postgraduate student discussion fora are now held each week to strengthen student support and mentoring.

(iii) **Information Brokerage** (Maximum 5 lines)
Eight semi-popular publications and a 30-minute TV programme were produced to interpret research findings for the lay public. The rewrite of the 7th edition of *Roberts Birds of Southern Africa*, the best-selling African natural history book of all time, has reached the final editing stage. CoE members attended four conferences or workshops.

(iv) **Networking** (Maximum 5 lines)
A broad range of close collaborative working relationships with scientific peers exists both nationally and internationally. The CoE is in the process of developing formal links with a variety of conservation NGOs and

governmental organisations. The CoE continues to build much-needed African capacity in the broad area of biodiversity conservation.

(v) **Service rendering** (Maximum 5 lines)
The CoE spent an average of 55 hrs/month advising conservation organizations, government departments, and industry on a variety of research projects, including a conservation issue relating to the certification of the hake fishery. CoE members served on 6 editorial boards, reviewed 76 papers and 18 research proposals, and performed 8 NRF evaluations.

3. **What was the gender impact of your work?** (Maximum 5 lines)
A strong policy on recruiting women ensured a 53% and 50% representation of women in the postgraduate student body for 2004 and 2005 respectively. This meets the objective of maintaining an equal representation of men and women within the CoE.

4. **Red Flags. Please indicate any major concerns you have for the future of your CoE** (Maximum 10 lines)
We have identified a challenge in attracting a sufficient number of high quality students, particularly students from under-represented groups. However, we are already putting plans in place to address this issue.

5. **General Comments** (Maximum 15 lines)
At the end of this 'Forming' stage, the CoE has established its board, and has a smooth-functioning management system in place. The long-term research strategy of the CoE has been refined to fit with the altered funding regime. Collaborative relationships between group members have been strengthened by the activities of planning and initiating a variety of collaborative research projects. Although new projects have been relatively slow to get underway, short-term goals are already being met with respect to: (1) the numbers and demographic breakdown of postgraduate students supported; and (2) publication outputs. With 24 postgraduate students and up to seven post-doctoral associates expected to be supported within the CoE during 2005, the CoE is well placed for the 'Storming' stage, with good early signs of additional outputs on the way.

PROGRESS REPORT

1. **Scientific Research**

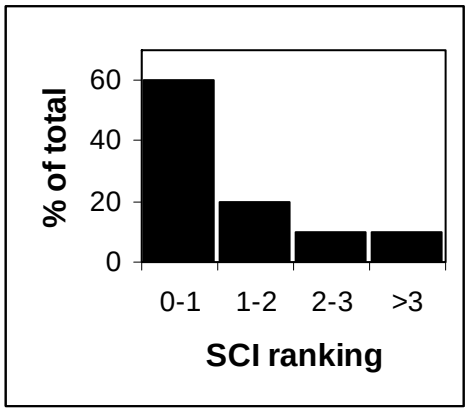
Objective

The short-term objective is to submit ≥6 manuscripts carrying the CoE address for peer-review in SCI-ranked journals during 2005. The medium-term goals (years 2005-2006) are to refine and align the research strategy of the CoE to the long-term goal of producing an increasing level of world-class research outputs. Progress in achieving this goal will be measured as the relative number of peer-reviewed publications in highly-ranked international journals.

The research programme itself is based on using birds to study two inter-linking themes, Understanding and Maintaining Biodiversity. The first investigates the composition and structure of biodiversity, the processes responsible for its generation, and how relationships between organisms and their environments influence the form and functioning of biological systems. The second builds on the strong theoretical and empirical foundation provided by the first to assess, predict and manage human impacts.

Progress

A total of 20 peer-reviewed papers (carrying the CoE address) were published or accepted for publication (in press) in SCI-ranked journals during 2004 (see Appendix 1 for a full listing). The relative distribution of these articles among journals with differing SCI impact factors is indicated in the accompanying bar-graph. These papers, resulting from research undertaken before the awarding of CoE status, provides a baseline against which future progress can be measured.



As a consequence of the reduced funding allocation to the CoE, and following the advice of the reviewers of the original proposal, the research programme has been narrowed to focus on using birds only, rather than including other taxa, as keys to biodiversity conservation. During September 2004, all CoE project leaders were invited to submit detailed project proposals. These were evaluated by the CoE Director on the basis of their anticipated cost (funding requirements) to benefit (quality and quantity of likely publications) ratios, resulting in a subset of projects being approved for CoE funding through 2005. All the major CoE research project themes with a focus on birds were thus initiated by the end of 2004. These include:

1. **Characterizing biodiversity to infer process from pattern.** Tim Crowe (UCT), Peter Ryan (UCT), Paulette Bloomer (UP), Rauri Bowie (US) and Tshifhiwa Mandiwana (Northern Flagship Inst.) have formed a collaborative group that are examining: (a) the current composition of African biodiversity to infer processes responsible for its origins; (b) population genetic structure to infer demographic processes; and (c) hybrid zones as models of the process of speciation.
2. **Evolutionary ecology.** Morné du Plessis (UCT), Phil Hockey (UCT), Peter Ryan (UCT), Penn Lloyd (UCT) and Andrew McKechnie (Wits) have formed a collaborative group that are examining: (a) life history, breeding, migration and dispersal strategies; (b) spatial and temporal dynamics of populations; and (c) the physiological mechanisms that shape the interaction between birds and their environments.
3. **Maintaining biodiversity.** The "emerging ecosystems", "climate change" and "conservation economics" sub-themes of the original proposal have largely been shed from the refined research strategy. However, many of the research projects initiated under the first two themes include components that will assess, predict and manage human impacts to inform conservation decision making. Further development of a research strategy in this theme will occur once the Pola Pasvolsky Chair in Conservation Biology is filled. This post was advertised in late 2004, and should be filled by mid-2005. In addition, Samantha Petersen, the BirdLife South Africa Seabird Conservation Officer, joined the CoE in 2004, and leads a project to assess and mitigate the impacts of longline fishing on seabird populations.

2. **Education and Training**

Objective

The short-term objective is for the CoE to support ≥15 MSc and PhD students and 4-5 postdoctoral associates during 2005. A medium- to long-term objective is to improve student support activities through regular meetings, discussion groups, and direct mentoring, to generate a vibrant research environment that instils a rigorous hypothetico-deductive approach to problem solving. With respect to equity issues, a long-term objective is to produce over the next 5-10 years ≥2 black South Africans who can step into a career position at the interface between ornithology and conservation biology.

Progress

Eight PhD and nine MSc students were supported within the CoE during 2004. Five (29%) of these students were black, and nine (53%) were women. Two new MSc and three new PhD dissertation student bursaries were advertised in late 2004. Eight PhD and 16 MSc students are expected to be supported within the CoE during 2005. Seven (29%) of these students will be black, and 12 (50%) will be women.

Two postdoctoral fellows were affiliated with the CoE in 2004, and will continue to be so through 2005: Rita Covas (U Edinburgh); and Andrew Radford (U Cambridge). One new postdoctoral fellow joined the CoE in January 2005 (Amanda Ridley), and a further four are set to start through 2005 (see Appendix 2 for details).

Two postgraduate student discussion fora are now held each week: (1) a Research Discussion Group that provides a forum for students and staff to critique research proposals, draft manuscripts and presentations, and exchange ideas for problem solving; and (2) a Conservation Biology Journal Club that focuses on discussing broader conservation issues.

3. **Information Brokerage**

Objective

Medium-term objectives (2005-2006) are to: (1) develop the basis for making a sustained and direct contribution to the semi-popular literature aimed at popularizing science in the fields of conservation biology in

general, and ornithology in particular; (2) to provide expert views on relevant matters for newspaper and magazine articles; and (3) to contribute to books of semi-technical nature. A short-term objective is to produce ≥12 such articles in semi-popular magazines and newspapers through 2005. Furthermore, CoE team members are expected to attend ≥6 conferences during 2005.

Progress

Eight semi-popular publications were produced during the review period. (see Appendix 1 for a complete listing). These include a book compilation of newspaper articles written by Morné du Plessis that appeared in regular columns in *Die Burger* and *Beeld*, and a newsletter publicising the research findings and conservation recommendations of the Oystercatcher Conservation Programme.

CoE members dealt with 160 telephone calls from members of the public requesting information. CoE members also fielded 15 media interviews, including a 30-minute television programme for 50/50 (SABC) on Oystercatcher conservation. The Oystercatcher Conservation Programme (OCP) has also played an important role in increasing public awareness of coastal conservation issues through: (1) newsletters, (2) public talks; (3) the development and implementation of coastal signage; and (4) engaging public participation in collecting research data for the OCP.

Phil Hockey, Peter Ryan, and Richard Dean, the three editors of the 7th edition of *Roberts*, have spent much of their time during the period under review on the final stages of editing. This has been a mammoth undertaking, and will provide the 'information benchmark' for many years to come. *Roberts 7* is a complete rewrite of the best-selling African natural history book of all time. It will be a biological handbook, with comprehensive treatment of all of southern Africa's 951 bird species. More than 50 authors (many from the Institute) have been involved in the book, which will be large format and approximately 1300 pages in extent, weighing in at 5.7 kg. In terms of knowledge brokerage and public involvement, the project has broken new ground in posting text on the internet for public scrutiny prior to its finalisation. Much of the text that has appeared on the web has already been referenced in the scientific literature.

CoE members have attended 4 conferences and workshops, including an Arid Adaptations Colloquium of the Royal Society of South Africa (September, South Africa), Arid Zone Ecology Forum conference

(September, South Africa), workshop on "Restoring Natural Capital" (September, South Africa), Pan African Ornithological Congress (December, Tunisia).

4. **Networking**

Objective

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

Progress

A wide range of close collaborative working relationships with scientific peers already exist both nationally and internationally (see list of collaborators below). Prof Tom Martin has developed a broad, collaborative research proposal for the NSF to examine world-wide patterns in avian life-history evolution. This multinational effort would span the USA (Profs Tom Martin, Derek Roff and Hubert Schwabl), Venezuela (Prof Carlos Bosque), New Zealand (Prof Jim Briskie) and South Africa. CoE development of a long-term study site at Koeberg Nature Reserve provides an important arm for this international network.

Peter Ryan has developed strong collaborative relationships with Dr John Croxall's group at British Antarctic Survey in Cambridge, and Dr David Grémillet's group at CNRS, France, with whom he will co-supervise a PhD student doing her research in South Africa. Tim Crowe and Rauri Bowie have a broad group of collaborators, including Dr Shannon Hackett (Chicago), Prof Gary Voelker (Memphis), Prof Jon Fjeldsa (Copehagen), and Dr Luc Lens (Ghent). Andrew McKechnie has strong collaborative links with the labs of Dr Blair Wolf (New Mexico), Prof Carlos Martinez del Rio (Wyoming), Dr Walter Jetz (Princeton) and Robert Freckleton (Oxford). Postgraduate students from Prof Nick Davies's group (Cambridge) continue to be involved in research projects at CoE study sites in South Africa.

The CoE is in the process of reaffirming or developing links with the SA National Biodiversity Institute (SANBI), Western Cape Nature Conservation Board, SA National Parks, WWF-SA, BirdLife SA, Fauna &

Flora International, Conservation International, and the Endangered Wildlife Trust. In November 2004, the CoE was approached by TRAFFIC to assist with the identification of birds in illegal wildlife trade, and a formal link has been established to this end.

The CoE has continued to build much-needed African capacity in the broad area of biodiversity conservation, with its support of four African students in the 2004 MSc programme in Conservation Biology. This has contributed to the New Partnership for Africa's Development (NEPAD) vision of building internationally-competitive capacity among Africans for sustainable development.

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 & Tourism, Dept Agriculture, Dept Water Affairs & Forestry, to ensure the expertise of the CoE can be used to address their particular research and information needs. CoE members will continue to render their services to the broader scientific community and the general public.

Progress

Flowing from the formal links established with a wide range of conservation agencies (as outlined under Networking), CoE members spent an average of 55 hours each month advising conservation organizations and government departments. The following illustrate the types of activities that CoE members were involved in.

Assessment of trawl warp interactions on seabirds in the South African hake trawl fishery:- The recent Marine Stewardship Council (MSC) certification awarded to the hake *Merluccius* spp trawl fishery off South Africa depends upon ongoing assessments of the impacts of the fishery on seabirds, notably the problem of birds being injured or drowned by trawl warps. During 2004, CoE researchers conducted a preliminary investigation for I&J, and found that some 400 albatrosses are killed annually when they are dragged underwater after colliding with the warps. On the basis of this study, a 15-month contract has been awarded by the South African Deep Sea Trawling Industry Association to further investigate the magnitude of the problem and to test mitigation

measures which hopefully will reduce interactions to a level sufficient to allow the fishery to retain its MSC status.

Removal of invasive flax *Phormium tenax* from Inaccessible Island:- As an adjunct to ongoing research activities on birds at the Tristan islands, Peter Ryan has been appointed an honorary Conservation Officer at Tristan, and has been actively involved in improving the conservation status of the Tristan-Gough islands. Having assisted with drafting management plans for the islands, which led to them being recognized as natural World Heritage Sites, he was also involved in planning the recent removal of invasive flax from Inaccessible Island. This took place in September 2004, with the assistance of high-altitude alien removal experts trained through South Africa's highly successful Working for Water Programme.

The Oystercatcher Conservation Programme (OCP):- Research by the OCP has been used by a number of organisations in the implementation of conservation policy. At a national level, research on the negative impacts of off-road vehicles on breeding oystercatchers has contributed to DEAT legislation on the use of Off-Road Vehicles on South Africa's beaches. In Namibia, the discovery of important nursery areas for juvenile, migratory oystercatchers has led to the legal status of this species being upgraded to a *Specially Protected Vertebrate* by the Namibian Ministry of the Environment. Research that has identified critical population processes and key sites for conservation, such as the staging areas that juvenile oystercatchers use to accomplish their migratory journeys is being used to inform the conservation strategies of WWF, the Cape Peninsula National Park, and the West Coast National Park.

CoE members serve on the editorial boards of 6 scientific journals, including Biological Conservation, Journal of Applied Ecology, Journal of Arid Environments, Ostrich, Southern African Journal of Wildlife Management, and Systematic Biology. Richard Dean is the Editor of Ostrich, the journal of African ornithology, and Sue Milton is an Associate Editor of the Journal of Arid Environments. Morné du Plessis serves on the International Ornithological Congress Committee, the Advisory Board to the Institute for Plant Conservation, the Council of BirdLife South Africa, the Advisory Committee of the Mammal Research Institute, and the Steering Committee of SAFRING. He is also a Trustee to WWF-SA, as Chairman of its Conservation Advisory Committee and its Projects Approval Group, and is Vice-president of the Board of Governors of the Africa Section of the Society for Conservation Biology. Phil Hockey serves on the Seychelles Island Foundation Board of Trustees.

Tim Crowe is President of the Southern African Society for Systematic Biology, Chairperson of South African Biosystematics Initiatives, and a board member of the South African Biodiversity Information Facility.

CoE members have reviewed a total of 76 papers for 39 different peer-reviewed journals, including Science, Proceedings of the Royal Society London, Evolution, Animal Behaviour, Conservation Biology, Journal of Applied Ecology, Functional Ecology, and Biological Conservation. Furthermore, CoE members performed 8 NRF evaluations, and reviewed a total of 18 research proposals for the NRF, NSF (USA), NRC (UK) and Earthwatch. Morné du Plessis served on the NRF panel reviewing proposals to the Biodiversity Conservation Focus Area, and a NRF workshop to develop a research strategy for the National Zoological Gardens.

6. **Gender impact of research**

Objective

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

Progress

The CoE has a firm recruitment policy in place to attract female post-graduates to ensure gender parity in the CoE student body. Consequently, 53% of students supported by the CoE in 2004 were women, and 50% of students supported in 2005 are expected to be women.

HUMAN RESOURCES

Please report on the people who worked within the CoE during the reporting period (or part thereof).

1. **Core Team Members**

Title	Surname	Citizenship	Institution	Gender	Race	% time spent working in CoE
Prof.	Bloomer	South Africa	UP	F	W	13
Dr	Bowie	South Africa	Stellenbosch	M	W	43
Prof.	Crowe	South Africa	UCT	M	W	15
Dr	Dean	South Africa	UCT	M	W	90
Prof.	Du Plessis	South Africa	UCT	M	W	90
Prof.	Hockey	South Africa	UCT	M	W	100
Dr	Lloyd	South Africa	UCT	M	W	100
Dr	McKechnie	South Africa	Wits	M	W	20
Ms	Mandiwana	South Africa	N Flagship Inst.	F	B	65
Prof.	Milton	South Africa	UCT	F	W	8
Dr	Ryan	South Africa	UCT	M	W	50
Dr	Turpie	South Africa	UCT	F	W	5

2. **Post Docs**

Title	Surname	Citizenship	Institution	Gender	Race	% time spent working in CoE
Dr	Covas	Portugal	Edinburgh	F	W	30
DR	Radford	UK	Cambridge	M	W	30

3. **Students**

Title	Surname	Citizenship	Institution	Gender	Race	Degree	Status
Mr	Cohen	SA	UCT	M	W	PhD	Incomplete
Ms	Hermann	SA	UP	F	W	PhD	Incomplete
Mr	Loewenthal	SA	UCT	M	W	PhD	Incomplete
Mr	Louw	SA	UCT	M	W	PhD	Incomplete
Ms	Mandiwana	SA	UCT	F	B	PhD	Incomplete
Ms	Seymour	SA	UCT	F	W	PhD	Incomplete
Ms	Spottiswoode	SA	Cambridge	F	W	PhD	Incomplete
Ms	Techow	SA	UCT	F	W	PhD	Incomplete
Mr	Angua	Uganda	UCT	M	B	MSc	Incomplete
Mr	Biggs	SA	UCT	M	W	MSc	Incomplete
Ms	Curtis	SA	UCT	F	W	MSc	Incomplete
Mr	Little	SA	UCT	M	W	MSc	Incomplete
Mr	Osano	Kenya	UCT	M	B	MSc	Incomplete
Mr	Owino	Kenya	UCT	M	B	MSc	Incomplete
Ms	Petersen	SA	UCT	F	W	MSc	Incomplete
Ms	Rao	Canada	Montreal	F	B	MSc	Incomplete

Ms	Spear	SA	UCT	F	W	MSc	Incomplete

4. **Collaborators (Loosely involved with CoE)**

Title	Surname	Citizenship	Institution	Gender	Race	% time spent working in CoE
Dr	Allen	SA	Durban Mus	M	W	1
Prof	Balmford	UK	Cambridge	M	W	50
Dr	Barker	USA	U Minnesota	M	W	<5
Dr	Barrowclough	USA	A Mus Nat Hist	M	W	1
Dr	Bates	USA	Chicago Mus.	M	W	1
Dr	Covas	Portugal	U Edinburgh	F	W	10
Prof	Craig	SA	Rhodes	M	W	1
Dr	Croxall	UK	BAS	M	W	<5
Prof	Davies	UK	Cambridge	M	W	1
Dr	Dranzoa	Uganda	Makerere U	F	B	1
Dr	Dyke	Ireland	UC Dublin	M	W	1
Prof	Fjeldsa	Denmark	U Copenhagen	M	W	1
Dr	Grémillet	France	CNRS	W	M	20
Dr	Hackett	USA	Chicago Mus.	F	W	1
Dr	Hilton	UK	RSPB	M	W	10
Dr	Jansen	SA	Tswane U Tech	M	W	1
Dr	Jetz	USA	Princeton U	M	W	1
Dr	Lens	Belgium	U Ghent	M	W	1
Prof	Martin	USA	U Montana	M	W	4
Prof	Martinez del Rio	USA	U Wyoming	M	W	1
Dr	O'Ryan	SA	UCT	F	C	10
Prof	Reilly	SA	Tswane U Tech	M	W	1
Dr	Sorenson	USA	Boston U	M	W	<5
Ms	Van Deventer	SA	Cape Nature	F	W	1
Prof	Voelker	USA	U Memphis	M	W	1
Mr	Ward	SA	Cape Nature	M	W	1
Dr	Wolf	USA	U New Mexico	M	W	1

5. **Administrative Staff**

Title	Surname	Position	Based at	Gender	Race
Mrs	Buchanan	Admin assistant	UCT	F	W
Mr	Hermann		UCT	M	W
Dr	Lloyd	CoE Manager	UCT	M	W
Mr	Mansfield	Research manager	UCT	M	B
Mr	Tobler	Snr technical officer	UCT	M	W
Mrs	Sandwith	Librarian	UCT	F	W

OUTPUTS

Please record the following outputs generated by the CoE within the reporting period.

Books / Chapters in Books

du Plessis, M.A. 2004. *Penvere*. Protea Boekhuis, Pretoria.

Articles in Peer reviewed journals

A total of 20 articles were published or are in press in peer-reviewed journals (see Appendix 1 for a complete listing).

Published conference proceedings

Hockey, P.A.R. (in press). Predicting migratory behaviour in landbirds. Pp 53-62 in: Greenberg R, Marra P (eds) *Birds of Two Worlds: Ecology and Evolution of Temperate-Tropical Migration.* Smithsonian Institution Press, Washington DC.

Products / Artifacts / Patents

None.

Conferences / meetings attended

Arid Adaptations Colloquium of the Royal Society of South Africa (September, Victoria West)
Arid Zone Ecology Forum conference (September, Victoria West)
Pan African Ornithological Congress (December, Tunisia)

Conferences / meetings hosted

Workshop on "Restoring Natural Capital" (September, Prince Albert)

Other relevant Outputs

STAGE 1 PROGRESS

This section gives information to the Board that will enable them to decide whether the CoE has made sufficient progress to pass from Stage 1 (Forming) into Stage 2 (Storming).

Please answer these questions briefly (yes/no).

1. **Did the CoE participate in the official launch of the DST-NRF CoE programme?** Yes, seven team members attended the function in Pretoria.
2. **Has the CoE had its own local launch?** Yes, at our AGM in October 2004.
3. **Did the CoE present its list of core team members and students to the NRF?** Yes, as part of its 2004 Business Plan.
4. **Did the CoE submit nuggets of information to the NRF in the last quarter of 2004?** Yes, in January 2005.
5. **Has an advisory Board been appointed and have they had an inaugural meeting?** Yes, the first meeting was in October 2004.
6. **Have you appointed all your administrative staff yet?** Partly. The CoE Manager has been appointed from mid-November 2004. The Pasvolsky Chair interview process is underway, and an appointment offer should be made by July 2005 at the latest. An additional administrative assistant will be appointed as the need arises.

Briefly (in a few lines) comment on the following:

1. **Has your CoE begun to develop a team spirit?**
   Yes. There have been extensive communications between team members involved in collaborative projects, to identify research priorities and coordinate field-work activities, such as the collecting of samples for the molecular genetics projects.
2. **Did your first team meeting assist with creating a team spirit or was it ineffectual?**
   The first team meeting in October 2004 brought everyone around the table for the first time since the site visit of the NRF evaluation team. Collaborative groups were able to break away and plan their research activities for the year ahead. There was some disappointment from project leaders whose contributions to the CoE had to be scaled down due to the reduced funding allocation that narrowed the focus of the CoE.

3. **Do all your core team members, especially those at remote sites, know and share your vision for the CoE?**
   Yes. The vision for the CoE was explained and debated at the first team meeting in October 2004. Management principles and protocols have been formulated and circulated for comment.
4. **Is your administration functioning efficiently and effectively?**
   Yes. Our administrative system is a pre-existing one. The CoE Manager was appointed in November, and has settled in well.

In a brief paragraph address the following issues.

1. **What, if any, are the major stumbling blocks to the production of knowledge within your CoE?**
   Our major challenge is in recruiting a sufficient number of high-quality postgraduate students, particularly students from under-represented groups, necessary to elevate the quality of the activities of the CoE. We are in the process of developing plans to deal with this. These include the creation of flexible student assistantships to encourage the involvement of promising 2nd and 3rd year undergraduates in CoE research activities, and inviting a group of promising undergraduate students from around the country to an annual summer school course.
2. **What are the strengths of the new CoE that you have identified subsequent to writing your proposal?**
   The strength of our CoE derives from proven working relationships between most team members, meaning that a common consensus to research priorities was quickly arrived at after the original proposal was substantially under-supported. Furthermore, the CoE has formalized access and collaboration between the Percy FitzPatrick Institute and genetic and physiology labs at the universities of Pretoria, Stellenbosch and Witwatersrand, which complement, without replicating, the ecological and conservation biology foci of the Institute. The activation of the Chair in Conservation Biology has secured the future of the very successful Conservation Biology programme at the Percy FitzPatrick Institute.
3. **In your opinion is your CoE ready for the next development stage and why?**
   During the 3-month 'Forming' stage in 2004, our CoE established its board, hired a Manager, and advertised for the Chair in Conservation Biology. Several new postgraduate bursary opportunities were advertised, most of which have been filled. The long-term strategy of the CoE was refined according to the altered

funding regime, and tangible short-term goals were set out in a Business Plan for the year. A well-established management system has been fine-tuned to the extra demands and intricacies of distributing funds among several institutions. Collaborative relationships between group members have been cemented through a collective planning workshop, and the process of getting a number of collaborative research projects under way. In short, the CoE is on schedule with all the requirements for the 'Forming' stage. The CoE is therefore well set for the 'Storming' stage, and already shows good signs of early outputs on the way.

FINANCES

Please attach audited financial records as described in the MoU (balance sheet, income and expenditure statement, cash flow statement and notes).

A note to the auditors: please confirm in your audit that all expenditure has been recorded by the CoE and that it is in compliance with the financial policies of the host institution and with the MoU between the NRF and the host institution, including all its attachments.

Balance Sheet

The CoE's only assets are cash assets, as reflected in the Income and expenditure statement. The audited financial records will be available by the end of March 2005.

Income and expenditure statement

STATEMENT OF INCOME AND EXPENDITURE FOR THE 3 MONTH PERIOD
1 OCTOBER 2004 TO 31 DECEMBER 2004

	ACTUAL		ZAR
Opening surplus/(deficit) at 1 October 2004			**0.00**
INCOME		**2,025,066.71**	
22-Oct-04 DST via NRF 2004 award	2,000,000.00		
Investment Income	25,066.71		
EXPENDITURE		**158,532.83**	
Salaries	**32,329.78**		
Lloyd,P	32,329.78		
Student costs	**24,000.00**		
Nowell	18,000.00		
Spear	6,000.00		
Conferences and related travel	**14,973.41**		
Equipment	**0.00**		
Running Expenses	**87,229.64**		
Closing surplus/(deficit) at 31 December 2004			**1,866,533.88**

Cash flow and notes

DESCRIPTION	*Sep-04*	*Oct-04*	*Nov-04*	*Dec-04*	*TOTAL*	*Annual Budget*	*VARIANCE*
NRF		2,000,000			**2,000,000**	380,000	1,620,000
Interest					**0**		0
Other					**0**		0
TOTAL INCOME	0	2,000,000	0	0	**2,000,000**	**380,000**	1,620,000
Salaries				-32,330	**-32,330**	**-50,000**	17,670
Student costs			-24,000		**-24,000**	**0**	-24,000
Conferences and related travel				-14,973	**-14,973**	**-25,000**	10,027
Equipment					**0**	**0**	0
Running			-10,622	-76,608	**-87,230**	**-305,000**	217,770
TOTAL EXPENSES	0	0	-34,622	-123,911	**-158,533**	**-380,000**	221,467
NET OUTCOME PROFIT/LOSS	**0**	**2,000,000**	**-34,622**	**-123,911**	**1,841,467**	**0**	**1,841,467**

Details of funding from host institution and other sources spent on CoE-related projects during the reporting period

Source	Fund description	Amount
UCT	URC	35,878.76
	Pasvolsky Bequest	252,314.84
		288,193.60
Other	Roberts Project	19,334.42
	Clancey Bequest	9,279.01
	World Wildlife Fund (Black Harrier)	33,001.33
	Oystercatcher Conservation Programme	13,603.12
	Estuarine waders	558.97
	Tropical Biology Association bursaries	64,098.00
	Royal Society for the Protection of Birds	50,000.00
		189,874.85
TOTAL		**478,068.45**

Operating budget for CoE and broader Percy FitzPatrick Institute (Fitztitute) for 2005

INCOME	CoE	Fitztitute	TOTAL
Carry over from 2004	1,866,534		1,866,534
NRF CoE 2005	2,000,000		2,000,000
Univ. Cape Town	180,000	3,605,618	3,785,618
Univ. Pretoria	60,000		60,000
Univ. Stellenbosch	60,000		60,000
Wits Univ.	25,000		25,000
Other		982,500	982,500
TOTAL INCOME	**4,191,534**	**4,588,118**	**8,779,652**

EXPENDITURE	CoE	Fitztitute	TOTAL
Salaries	798,000	3,061,553	3,859,553
Student costs	702,000	528,654	1,230,654
Conferences/travel	165,000		165,000
Equipment	0	0	0
Running	1,372,400	998,710	2,371,110
TOTAL EXPENDITURE	**3,037,400**	**4,588,917**	**7,626,317**

CONCLUSION

At the end of this 'Forming' stage, the CoE has established its board, and has a smooth-functioning management system in place. The long-term research strategy of the CoE has been refined to fit with the altered funding regime. Collaborative relationships and a sense of team spirit between group members have been strengthened by the activities of planning and initiating a variety of collaborative research projects. An initial under-spending on project running expenses, as reflected in the difference between actual expenses and the budgeted amount for 2004, can be attributed to two factors. First, the negotiation process between the host institution and satellite institutions meant that the contracts between institutions were signed relatively late in the year, which delayed the initiation of many research projects. Second, a strategy of staggering the entry of new projects means that initial start-up expenses will be relatively lower in the first year of the CoE's operation.

Despite the delay to the start of new projects, short-term goals are already being met with respect to: (1) the numbers and demographic breakdown of postgraduate students supported; and (2) publication outputs. With 24 postgraduate students and up to seven post-doctoral associates expected to be at least partially supported within the CoE during 2005, the CoE is well placed for the 'Storming' stage, with good early signs of additional outputs on the way.

Appendix 1: Publications for 2004 (CoE members in bold type)

Peer-reviewed articles

Balmford, A., Bennun, L., Ten Brink, B. Cooper, D, *et al*. 2005 The Convention on Biological Diversity's 2010 target. *Science* 307:212-213.

Beresford, P., Barker, F.K., **Ryan, P.G. & Crowe, T.M.** in press. African endemics span the tree of songbirds (Passeri): Molecular systematics of several evolutionary 'enigmas'. *Proceedings of the Royal Society, London* B.

Bowie, R.C.K., Voelker, G., Fjeldså, J., Lens, L., Hackett, S.J. and **Crowe, T.M.** (in press). Systematics of the Olive Thrush (*Turdus* spp.) species complex with reference to the taxonomic status of the endangered Taita Thrush. Journal of Avian Biology.

Bowie, R.C.K., Fjeldså, J., Hackett, S.J. and **Crowe, T.M.** 2004. Molecular evolution in space and though time: mtDNA phylogeography of the Olive Sunbird (*Nectarinia olivacea/obscura*) throughout continental Africa. Molecular Phylogenetics & Evolution. 33: 56-76.

Dean, W.R.J. & Williams, J.B. in press. Adaptations of birds for life in deserts with particular reference to larks (Alaudidae). *Transactions of the Royal Society of South Africa*.

Hockey, P.A.R. (in press) Predicting migratory behaviour in landbirds. Pp 53-62 in: Greenberg R, Marra P (eds) *Birds of Two Worlds: Ecology and Evolution of Temperate-Tropical Migration.* Smithsonian Institution Press, Washington DC.

Lepage, D. & Lloyd, P. 2004. Avian clutch size in relation to rainfall seasonality and stochasticity along an aridity gradient across South Africa. *Ostrich* 75: 259-268.

Lloyd, P. 2004. Variation in nest predation among arid-zone birds. *Ostrich* 75: 327-328.

Lloyd, P. 2004. Comparative breeding success of Yellow Bishop (*Euplectes capensis*) in two adjoining habitats. *Ostrich* 75: 226-235.

Mills, M.S.L. & Ryan, P.G. in press. Modelling impacts of long-line fishing: what are the effects of pair-bond disruption and sex-biased mortality on albatross fecundity? *Animal Conservation.*

Milton, S.J., Dean, W.R.J. & Leuteritz, T. in press. Opportunistic and multiple breeding attempts in plants and vertebrates of semi-deserts with unpredictable rainfall events through the year *Transactions of the Royal Society of South Africa*.

Nalwanga, D., Lloyd, P., du Plessis, M.A. & Martin, T.E. 2004. The influence of nest-site characteristics on the nesting success of Karoo Prinia (*Prinia maculosa*). *Ostrich* 75: 269-274.

Nalwanga, D., Lloyd, P., du Plessis, M.A. & Martin, T.E. 2004. Nest-site partitioning in a shrubland bird community. *Ostrich* 75: 250-258.

Petersen, S.L., Ryan, P.G. & Grémillet, D. in press. Is food availability limiting African Penguins at Boulders Beach? A comparison of foraging ecology at mainland and island colonies. *Ibis*

Radford, A.N. & du Plessis, M.A. 2004. Territorial vocal rallying in the Green Woodhoopoe: factors affecting contest length and outcome. *Animal Behavior* 68: 803-810.
Ryan, P.G. & Marshall, H.K. in press. Variation in the wing-clapping display of Clapper Larks. *Ostrich*
Ryan, P.G., Wright, D., **Oatley, G.**, Wakeling, J., Cohen, C., Nowell, T.L., **Bowie, R.C.K.**, Ward, V. and **Crowe, T.M.** 2004. Systematics of *Serinus* canaries and the status of Cape and Yellow-crowned Canaries inferred from mtDNA. *Ostrich* 75: 288-294.
Simmons, R.E. in press. Declining coastal avifauna at a diamond mining site in Namibia: before and after comparisons and causes. *Ostrich*.
Simmons, R.E., Barnard, P., **Dean, W.R.J.**, Midgley, G.F., Thuiller, W. and Hughes, G. 2004. Climate change and birds: perspectives and prospects from southern Africa. Ostrich 75: 295–308.
Simmons, R.E., du Plessis, M.A. & Hedderson, T.A.J. 2005. Seeing the woodhoopoe for the trees: should we abandon Namibia's Violet Woodhoopoe *Phoeniculus damarensis* as a species? *Ibis* 147: 222-224.
Wichmann, M.C., **Dean, W.R.J.** and Jeltsch, F. 2004. Global change challenges the Tawny Eagle (*Aquila rapax*): modelling extinction risk with respect to predicted climate and land use changes. *Ostrich* 75: 204-210.

Semi-popular articles/books

du Plessis, M.A. 2004. *Penvere*. Protea Boekhuis, Pretoria.
Hockey, P.A.R. 2004. Land invasions: are indigenous expansionists cause for concern? Africa Birds & Birding 9(5): 35-41.
Hockey, P.A.R. & Loewenthal, D. 2004. *Oystercatcher Tidings: Newsletter of the Oystercatcher Conservation Programme, 3rd edition*. PFIAO.
Jenkins, A. 2004. Raptors in the firing line. *Africa Birds and Birding* 9(6)24.
Jenkins, A., De Goede, K. & Van Rooyen, C. 2004. Managing problem Eagles and solving Eagle's problems. *Promerops* 260:8-9.
PFIAO. 2004. Cranes in the field. *Africa Birds and Birding* 9(5):19.
PFIAO. 2004. What are wood-hoopoes shouting about? *Africa Birds and Birding* 9(6):19
Simmons, R.E. 2004. The last grasp: death by cartwheeling. *Africa Birds and Birding* 9(5):16.

Technical reports

Lloyd, P. 2004. Baseline study of gamebird populations and recommendations on sustainable use and monitoring of game birds in Sera Wildlife Conservancy, Kenya. Prepared for Fauna & Flora International.
Lloyd, P. 2004. Progress report on White-fronted Plover research in and adjoining the Cape Peninsula National Park. Prepared for SAN Parks.

Appendix 2: List of CoE students for 2005

PhD

Mr Callan Cohen – The evolution of the bustards: implications for African biogeography, evolution of display and conservation.
Ms Lucille Hermann – Comparative phylogeography of forest avifauna.
Mr Doug Loewenthal – Population dynamics and conservation of the African Black Oystercatcher.
Mr Kirsten Louw – Patterns and ecological correlates of migratory behaviour in African birds.
Ms Tshifhiwa Mandiwana – Systematics of African spurfowl and francolins.
Ms Lorien Pichegun (registered at U Louis Pasteur, France) – The influence of environment versus individual quality in the population dynamics of Cape Gannets.
Ms Colleen Seymour – The role of *Acacia erioloba* in preserving biodiversity in the Kalahari, South Africa.
Ms Mareila Techow – Population genetics of *Macronectes* and *Procellaria* petrels.

Dissertation MSc

Mr Duan Biggs – Influence of Institutional Arrangements on the success of community avitourism projects for conservation and development.
Ms Odette Curtis – Raptors and habitat fragmentation: contrasting responses of a harrier and a hawk.
Mr Graeme Oatley – Unravelling species boundaries in the Cape White-eye.
Ms Samantha Petersen – Managing the bycatch of seabirds, turtles and sharks in selected fisheries off southern Africa.
Ms Anu Rao (registered at U Montreal, Canada) – Conservation requirements of juvenile African Black Oystercatchers.
Mr Zach Vincent – Demography and life history strategies of albatrosses.

Conservation Biology MSc

Mr Mao Angua
Ms Tammy Baudains
Mr Potiphar Kaliba
Mr Ian Little
Mr Takalani Maswime
Ms Zoe McDonell
Mr Philip Osano
Mr Alfred Owino

Ms Dian Spear
Ms Karen Vickers

Post-doctoral associates

Rita Covas (joint with, but registered at U Edinburgh, from January 2005)
Wayne Delport (from June 2005)
Corine Eising (from April 2005)
Mr Ulf Johansson (from April 2005)
Andrew Radford (joint with, but registered at U Cambridge, from January 2005)
Amanda Ridley (from January 2005)
Claire Spottiswoode (joint with, but registered at U Cambridge, from October 2005)