



Darwin Initiative for the Survival of Species

Annual Report 2005: Ref 13/014

Capacity building in mammal management for Western Cape nature reserves

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1. Darwin Project Information

Project Ref. Number	13/014
Project Title	Capacity building in mammal management for Western Cape nature reserves
Country(ies)	South Africa
UK Contractor	University of Durham
Partner Organisation(s)	CapeNature, South Africa
Darwin Grant Value	£98306
Start/End dates	1 st October 2004 to 31 st March 2007
Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	1 st October 2004 to 31 st March 2005. Report Number 1
Project website	http://www.dur.ac.uk/r.a.hill/Zebra%20Conservation.htm (access via http://www.dur.ac.uk/r.a.hill/ under Research then Cape Mountain Zebra Conservation)
Author(s), date	Dr Russell Hill, March 2005

2. Project Background

- Briefly describe the location and circumstances of the project and the problem that the project aims to address.

Traditionally, the Western Cape, South Africa, has been a region where the majority of conservation efforts have been directed at preserving the unique local flora; the Cape Floral Region is home to a diverse and sensitive flora which has large numbers of locally endemic and globally threatened plant species. Large mammals are relatively rare in Western Cape reserves and as a consequence, large mammal censuses are not currently a feature of CapeNature policy. Nevertheless, the Western Cape is home to a number of rare mammal species, including Cape mountain zebra (CMZ), such that the capacity for long-term monitoring is essential in developing future management programs. Planned reintroductions of large native fauna (including flagship species such as black rhino) have highlighted the need to build local capacity and methodology for sustainable mammal censusing as part of a sound management strategy. Over the next couple of years we will work towards implementing sustainable census methodology for CMZ at De Hoop Nature Reserve. De Hoop is itself a high biodiversity priority since its limestone fynbos is a hotspot of endemic richness. The De Hoop CMZ population is also extremely important as it is the only population to have originated from individuals translocated from two of the original populations; it is thus the most genetically diverse CMZ population. In the later stages of the project, however, we will expand the censusing to Kammanassie and Gamkaberg Nature Reserves, the two remaining natural populations managed by CapeNature.

The project will use computer software produced by CyberTracker Conservation in South Africa. This software is specifically designed to allow non-literate users to gather large quantities of geo-referenced data from field observations for projects that range from intensive monitoring of endangered species to large-scale regional programs and long-term monitoring of ecosystems. This study will work with CyberTracker Conservation to develop the software to meet monitoring and management requirements in CapeNature nature reserves. Through assessing the suitability of this software within the framework of

monitoring the CMZ population at De Hoop, the study will develop the capacity for sustainable management of Western Cape large mammal populations.

3. Project Purpose and Outputs

- State the purpose and outputs of the project. Please include your project logical framework as an appendix and report achievements and progress against it (or, if applicable, against the latest version of the logframe).

The project has four primary objectives:

- i) Re-establish long-term monitoring of endangered CMZ (IUCN Endangered, CITES Appendix I) at De Hoop Nature Reserve, and to establish monitoring at Kammanassie and Gamkaberg Nature Reserves in line with IUCN (2002) recommendations for successful management of small populations.
- ii) Develop a rigorous methodology for monitoring of flagship threatened mammal species using icon-driven handheld computer technology suitable for semi-literate to illiterate conservation field staff.
- iii) Develop clear large mammal census techniques for Western Cape nature reserves for new management policy of current reserves and to develop capacity for planned development of mega-reserves and reintroductions.
- iv) Integrate outputs of established monitoring into a comprehensive database to facilitate local and regional assessment of long-term trends and local stability of populations of target species.

- Have the outputs or proposed operational plan been modified over the last year, for what reason, and have these changes been approved by the Darwin Secretariat? (Please note that any intended modifications should be discussed with the Secretariat directly rather than making suggestions in this report).

In consultation and agreement with the Darwin Secretariat the start date for the project was put back until October 2004, with the timetable and budget modified accordingly. There have been no modifications to the proposed outputs as a result of the change of start date.

4. Progress

- Please provide a brief history of the project to the beginning of this reporting period. (1 para)

This is the first year of the project, with the project officially starting in October 2004. The Project Leader had previously worked at De Hoop Nature Reserve, and it was through contacting Peter Lloyd (Specialist Scientist - Cape mountain zebra (CMZ), *Equus zebra zebra*) at CapeNature with a view to initiating a project on the conservation genetics of CMZ at De Hoop that the need for the project was identified. As a result the Project Leader worked closely with CapeNature in putting together this project aimed at establishing monitoring of CMZ and large mammal census techniques in Western Cape nature reserves.

- Summarise progress over the last year against the agreed baseline timetable for the period and the logical framework (complete Annex 1). Explain differences including any slippage or additional outputs and activities.

The most significant issue to occur over the last year has been in the change to the project start date. Following the announcement of the grant it became necessary to appoint a new Project Officer and we were delighted when Dr Rebecca Smith joined the project on the

revised start date of October 1st 2004. Since Dr Smith had not been involved in the development of the project we thought it important that we modify our timetable of visits to South Africa to allow her to meet our overseas partners and visit De Hoop Nature reserve, the primary location of the project. Furthermore, we had had an invitation to attend the Mountain Zebra Working Group meeting at Gamkaberg Nature Reserve and felt that this was an important opportunity to advertise the project more broadly to other CMZ stakeholders. The Project Leader and Project Officer thus visited South Africa for 2 weeks in November 2004. While this has subsequently delayed the start of the main fieldwork and training phase, with the Project Leader and Project Officer about to leave for South Africa in April 2005, changes in De Hoop management and the release of a new version of CyberTracker (see below) actually mean that this new schedule is extremely beneficial. We anticipate the project will now converge on the original timetable over the coming year. Since we have achieved all of the other milestones set out in our timetable, including the production of a report on mammal census techniques, we feel that the project is on target and in line with that set out in the original proposal.

- Provide an account of the project's achievements during the last year. This should include concise discussion on methodologies and approaches by the project (e.g. research, training, planning, assessment, monitoring) and their consequences and impacts as well as results. Please **summarise** content on methodologies and approaches, and, if necessary, provide more detailed information in appendices (this may include cross-references to attached publications).

The project's achievements in the past 6 months have primarily related to refining the methodology to be used in the fieldwork and training component of the project. We have produced a report on censusing methodology for large terrestrial mammals with particular reference to methods for Western Cape nature reserves (a copy of which is enclosed). Preliminary routines have been devised for the CyberTracker software and these will be transferred to the updated version of CyberTracker as soon as it is released. The Project Leader and Project Officer both attended the Mountain Zebra Working Group meeting in South Africa in November 2004. As well as ensuring a greater audience for our project this trip also greatly facilitated discussing logistic issues related to the work such that the main training and field work phase should start smoothly in April 2005.

- Discuss any significant difficulties encountered during the year and steps taken to overcome them.

The only substantive issue to arise this year has been in the delaying of the start date whilst we employed a new Project Officer to coordinate the project in South Africa. Whilst this has necessitated some slight changes to the timing of the Project Leader and Project Officer's visits to South Africa, these changes will hopefully prove to be quite beneficial for a couple of reasons. CyberTracker are releasing a new version of their software in March/April 2005 and it will obviously be prudent to begin the field ranger training using this new version rather than attempting to implement updated software midway through the training period. Secondly, we have also been informed that the current manager of De Hoop Nature Reserve will be leaving shortly. His replacement, Peter Chadwick, is moving from Kammanassie Nature Reserve in April 2005. Since Peter has previously published articles on the Cape mountain zebra and is highly committed to their conservation we are confident that this change of personnel will in fact have a positive effect on the project. Thus while the start of the training period has been delayed we feel that this could help the project significantly in the long term.

- Has the design of the project been enhanced over the last year, e.g. refining methods, indicators for measuring achievements, exit strategy?

Since the project is still at an early stage, with the fieldwork and training component only just about to begin, it is too early to determine if enhancements or refinements are possible (other than in the implementation of the latest CyberTracker software). As the project progresses, however, potential enhancements will obviously be considered.

- Present a timetable (workplan) for the next reporting period.

April – May 2005: Implement designed CyberTracker routines on updated software (CT v3.02). Initial training in CyberTracker for game rangers and chief conservator at DHNR led by Project Officer.

June - September 2005: In-service training with field ranger feedback into CyberTracker routines. Update of 1999 CMZ photographic records to reflect 2004 population. Enhance database design and ensure flow of data from CyberTracker to CMZ database. Process to be monitored and evaluated by Project Officer with Project Leader site visit. Assessment of census techniques for De Hoop large mammal population. Project Leader to attend International Mammalogy Conference in August 2005 to present invited talk in equid symposium.

October 2005 – September 2006. 1-year pilot study of CyberTracker to collect required management information by field rangers led by chief conservator. Monitoring and evaluation by Project Officer until December 2005. 3-monthly on-site assessments by Project Leader or Project Officer afterwards. Preparation of results of census techniques for publication.

5. Actions taken in response to previous reviews (if applicable)

- Have you responded to issues raised in the review of your last year's annual report? Have you discussed the review with your collaborators? Briefly describe what actions have been taken as a result of recommendations from last year's review.

Not applicable.

6. Partnerships

- Describe collaboration between UK and host country partner(s) over the last year. Are there difficulties or unforeseen problems or advantages of these relationships?

The collaboration with CapeNature has worked well so far in this project. The Project Leader and Project Officer had a successful visit to South Africa in November 2004 and met with all of the local representatives engaged in the project. We were also invited to attend the Mountain Zebra Working Group Meeting at Gamkaberg Nature Reserve, which help introduce the project more broadly to the important stakeholders in the mountain zebra community. We are now about to embark on the prolonged period of development and training in South Africa and CapeNature have been very helpful in arranging accommodation at De Hoop and other logistical issues prior to our arrival. We have recently heard, however, that the current manager of De Hoop is about to leave for a new position. His replacement, Peter Chadwick, will be moving from Kammanassie Nature Reserve where he has shown great interest in, and published articles on, Cape mountain zebra conservation. As a consequence we feel that the situation at De Hoop is likely to have improved beyond that envisaged at the time of the application and we are more than happy at this stage with the relationship with our overseas partners.

- Has the project been able to collaborate with similar projects (Darwin or other) in the host country or other regions, or establish new links with / between local or international organisations involved in biodiversity conservation?

At the time of writing the report we are about to begin our fieldwork in South Africa and as a consequence it is probably too early to say what sort of collaborative opportunities are likely to develop. However, on our preliminary visit to South Africa in November 2004 we were invited to attend the Mountain Zebra Working Group meeting held at the Gamkaberg Nature Reserve. All of the major mountain zebra stakeholders were represented (including South Africa National Parks Board) and as a consequence being involved in this forum will hopefully open up opportunities for future collaboration once we are more permanently based in South Africa.

7. Impact and Sustainability

- Discuss the profile of the project within the country and what efforts have been made during the year to promote the work. What evidence is there for increasing interest and capacity for biodiversity resulting from the project? Is there a satisfactory exit strategy for the project in place?

CapeNature have recently been going through a rebranding exercise resulting in a new design of their logo and thus web site. As a consequence we have had to wait for this process to work itself through before incorporating the project into their new web design, and this is something we hope to achieve soon. Nevertheless, we are receiving considerable support from our local partners, and the invitation to attend the Mountain Zebra Working Group meeting in November 2004 has helped to advertise the project to the broader mountain zebra and conservation community. By reporting back to this working group on an annual basis we will hopefully achieve a greater legacy for the project that was originally envisaged.

We are still at an early stage of the project and so our exit strategy remains the same as that laid out in our original application. The field rangers and chief conservator we train will continue to work at De Hoop after the end of the project, and by the end of year 2 will be operating independently of the Project Officer in collecting management data. As a consequence, successful long-term monitoring of CMZ at De Hoop is assured. In the final 6 months, the Project Officer will ensure that, following the training workshop, the methodology is successfully transferred to Kammanassie and Gamkaberg Nature reserves such that the monitoring program is functioning efficiently by the end of the project. This represents an extremely solid exit strategy for the continuation of this Darwin Initiative project, and will ensure large-scale monitoring of CMZ. The project will also leave a solid platform for CapeNature to develop the methodology to address their future requirements in managing large mammal populations.

8. Post-Project Follow up Activities (max 300 words)

This section should be completed ONLY if your project is nearing completion (penultimate or final year) and you wish to be considered to be invited to apply for Post Project Funding. *Each year, a small number of Darwin projects will be invited to apply for funding. Selection of these projects will be based on promising project work, reviews to date, and your suggestions within this section. Further information on this scheme introduced in 2003 is available from the Darwin website.*

- From project progress so far, what follow-up activities would help to embed or consolidate the results of your project, and why would you consider these as suitable for Darwin Post Project Funding?

Not applicable at this stage.

- What evidence is there of strong commitment and capacity by host country partners to enable them to play a major role in follow-up activities?

Not applicable at this stage.

9. Outputs, Outcomes and Dissemination

- Explain differences in actual outputs against those agreed in the initial 'Project Implementation Timetable' and the 'Project Outputs Schedule', i.e. what outputs were not or only partly achieved? Were additional outputs achieved?

To date, all of the outputs proposed for the first 6 months of the project have been achieved, although the duration of time spent in South Africa by the UK personnel differs slightly from that detailed in the original schedule. This was to allow the Project Officer to meet with our overseas partners as early as possible in the project. This also allowed us to attend the Mountain Zebra Working Group meeting at Gamkaberg Nature Reserve, an additional output to those listed on the original application. A report on potential censusing methods for CapeNature nature reserves that was listed in the project implementation timetable has also been produced. The Project Leader and Project Officer are about to return to South Africa for 5 weeks and 36 weeks respectively.

- Provide details of dissemination activities in the host country during the year, including information on target audiences. Will dissemination activities be continued by the host country when the project finishes, and how will this be funded and implemented?

Due to the early stage of the project dissemination in the host country has yet to occur outside of the attendance at the Mountain Zebra Working Group meeting. The project will soon be linked to the new CapeNature web site.

- Please expand and complete Table 1. **Quantify** project outputs over the last year using the coding and format from the Darwin Initiative Standard Output Measures (see website for details) and give a brief description. Please list and report on appropriate Code Nos. only. The level of detail required is specified in the Guidance notes on Output Definitions, which accompanies the List of Standard Output Measures

Table 1. Project Outputs (According to Standard Output Measures)

Code No.	Quantity	Description
8	4 weeks	Project Leader (2 weeks) and Project Officer (2 weeks) in South Africa to meet local collaborators and attend Mountain Zebra Working Group meeting
	1	Project web site produced at: http://www.dur.ac.uk/r.a.hill/Zebra%20Conservation.htm (access via http://www.dur.ac.uk/r.a.hill/ under Research then Cape Mountain Zebra Conservation)
9	1 (enclosed)	Report on large mammal censusing techniques with reference to CapeNature nature reserves.
14B	1	Project Leader and Project Officer attendance at Mountain Zebra Working Group meeting

- In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost.

Details will be recorded on the Darwin Monitoring Website Publications Database. Mark (*) all publications and other material that you have included with this report.

No applicable.

10. Project Expenditure

- Please expand and complete Table 3.

Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)

Item	Budget (updated September 2004)	Expenditure	Balance
	£	£	£

- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

At present the project is proceeding on budget. Although there are slight under spends on the office costs and on others (mostly budgeted as the set-up costs of rechargeable batteries for the CyberTracker units) these are primarily due to the timing of the annual report and these items will be purchased in South Africa as soon as the fieldwork and training component begins. The only apparent over spend relates to travel and subsistence. This almost entirely relates to the slight rescheduling of the field visits in order to allow the new Project Officer to meet the CapeNature collaborators as early in the project as possible. As a consequence there have been extra flights and subsistence entering this budget due to the advance booking of air tickets prior to the March 31st deadline. This deficit will be balanced by the projected under spend on next years travel budget.

11. Monitoring, Evaluation and Lessons

- Discuss methods employed to monitor and evaluate the project this year. How can you demonstrate that the outputs and outcomes of the project actually contribute to the project purpose? i.e. what are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?

Since our project had a limited proposed outputs proposed for the first 6 months, evaluation and monitoring of progress has been relatively straightforward to this point. The web site has been established (although it will not be linked to the CapeNature write site until their new web pages are complete) and a report reviewing census methodology for large terrestrial

mammals has been produced (see Appendix 2). The Project Leader and Project Officer have both made a visit to liaise with our South African collaborators and with the fieldwork and training about to begin the project is thus progressing well.

It is clear, however, that once the training process has begun at De Hoop that we will need to look more closely at evaluating the progress of the field rangers in operating the CyberTracker software. The Project Officer will remain in South Africa until December 2005 to ensure that the project progresses and achieves the goals laid out in the original proposal.

- What lessons have you learned from this year's work, and can you build this learning into future plans?

Again, given that we only now embarking on the training and fieldwork phase we are probably at too early a stage in the project to reflect on the progress this year. The invitation to the Mountain Zebra Working Group meeting has, however, highlighted the need to remain flexible in our schedule and travel plans over the coming year.

12. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)

■ I agree for ECTF and the Darwin Secretariat to publish the content of this section

In this section you have the chance to let us know about outstanding achievements of your project over the year that you consider worth highlighting to ECTF and the Darwin Secretariat. This could relate to achievements already mentioned in this report, on which you would like to expand further, or achievements that were in addition to the ones planned and deserve particular attention e.g. in terms of best practice. The idea is to use this section for various promotion and dissemination purposes, including e.g. publication in the Defra Annual Report, Darwin promotion material, or on the Darwin website. As we will not be able to ask projects on an individual basis for their consent to publish the content of this section, please note the above agreement clause.

The project is still at too early a stage for major developments or progress. We hope to have something significant to contribute to this section next year.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2004/2005

Project summary	Measurable Indicators	Progress and Achievements Oct 2004-Mar 2005	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
Purpose			
To produce sustainable capacity for large mammal management in Western Cape nature reserves through development of icon driven computer software	i) Re-established monitoring of CMZ at DHPNR, new monitoring implemented at KPNR and GPNR, and a general increase in large mammal censusing ii) Operational icon-driven computer software for use by field rangers iii) Effective management plan for censusing of large mammal populations in Western Cape provincial nature reserves	Since we are only 6 months into the project it is still at to early a stage to make significant impacts in relation to the purpose indicators. However, with the field work and training component about to begin in South Africa, we would expect to make substantial progress in the next 6 months.	The Project Leader and Project Officer will soon be heading to South Africa to begin the on site training of field rangers, with the Project Officer remaining until at least December 2005 to monitor progress. Since the new version of CyberTracker is to be released shortly, we should make substantial progress in the coming year.
Outputs			
Increased capacity for mammal surveying and management through staff training	8 field rangers trained in data collection at DHPNR; field rangers act as trainers for staff from other reserves	No direct progress – work to date has concentrated on preparing from training and fieldwork phase and on refining methodology.	Project Leader and Project Officer are about to depart for South Africa to commence training phase.
Enhanced and updated CMZ monitoring and records	Complete population records for DHPNR and DCO’TR conservancy	Current database obtained and analysed in preparation for fieldwork phase.	Project Officer will be based at De Hoop from April 2005 to update CMZ population records and photographs.
Management plan for mammal surveys and conservation in Western Cape provincial nature reserves	Report on census techniques Recommendations to WCNCB management on future policy	Report on census techniques produced (copy enclosed)	DHPNR CMZ management database to be updated in enhanced electronic format.

Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels.

APPENDIX 1: LOGICAL FRAMEWORK

<i>Project summary</i>	<i>Measurable indicators</i>	<i>Means of verification</i>	<i>Important assumptions</i>
<p><i>Goal:</i></p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> • the conservation of biological diversity, • the sustainable use of its components, and • the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
<p><i>Purpose</i></p> <p>To produce sustainable capacity for large mammal management in Western Cape nature reserves through development of icon driven computer software</p>	<p>i) Re-established monitoring of CMZ at DHPNR, new monitoring implemented at KPNR and GPNR, and a general increase in large mammal censusing</p> <p>ii) Operational icon-driven computer software for use by field rangers</p> <p>iii) Effective management plan for censusing of large mammal populations in Western Cape provincial nature reserves</p>	<p>i) DHPNR management reports, CMZ database</p> <p>ii) Software adopted by WCNCB available from CyberTracker conservation</p> <p>iii) Peer reviewed publications (copies to Darwin initiative); management plan available from WCNCB</p>	<p>CyberTracker continue free software development</p> <p>Continued cooperation from DCOTR</p>
<p><i>Outputs</i></p> <p>Increased capacity for mammal surveying and management through staff training</p>	<p>8 field rangers trained in data collection at DHPNR; field rangers act as trainers for staff from other reserves</p>	<p>Field survey reports</p> <p>DHPNR management reports</p> <p>KPNR and GPNR management reports</p>	<p>Current field ranger levels maintained at DHPNR</p>
<p>Enhanced and updated CMZ monitoring and records</p>	<p>Complete population records for DHPNR and DCOTR conservancy</p>	<p>CMZ database available in enhanced electronic format</p> <p>Peer reviewed publications (copies to Darwin initiative)</p>	<p>Continued cooperation from DCOTR</p>
<p>Management plan for mammal surveys and conservation in Western Cape provincial nature reserves</p>	<p>Report on census techniques</p> <p>Recommendations to WCNCB management on future policy</p>	<p>Peer-reviewed publications (copies to Darwin initiative)</p> <p>Management plan available from WCNCB</p>	
<p><i>Activities</i></p> <p>Training programs</p>	<p>Activity Milestones (Summary of Project Implementation Timetable)</p> <p>Yr 1: Initial game ranger training (Oct 04) followed by in-service training with field ranger feedback at DHPNR (Nov 04 – Mar 05); Yr 3 field ranger led training seminar at Potberg for rangers from KPNR and GPNR (Apr 06)</p>		
<p>Software development</p>	<p>CyberTracker software developed for CMZ monitoring at DHPNR by Sep 04; field tests and development to produce final version by Apr 05</p>		
<p>Field research</p>	<p>Yr 1: Monitoring re-established for CMZ at DHPNR with long-term records updated in enhanced digital format by Mar 05; Assessment of CyberTracker software and census techniques completed by Apr 05; Yr 2: Pilot study of CyberTracker software on DHPNR CMZ completed by Apr 06; Yr 3: Introduction and assessment of CMZ monitoring and management plan at KPNR and GPNR from May 06</p>		