



# Darwin Initiative for the Survival of Species

*Project: 14012*

## *limbovane Outreach Project: Exploring South African Biodiversity and Change*

### **Annual Report (Year 1)**

*(for the period October 2005 - April 2006)*

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## 1. Darwin Project Information

Project Ref. Number	14012
Project Title	<i>limbovane Outreach Project: Exploring South African Biodiversity and Change</i>
Country(ies)	<i>United Kingdom and South Africa</i>
UK Contractor	<i>Biodiversity and Macroecology Group – University of Sheffield (UoS)</i>
Partner Organisation(s)	<i>DST-NRF Centre of Excellence for Invasion Biology – University of Stellenbosch</i>
Darwin Grant Value	£286,892
Start/End dates	1 October 2005 – 31 September 2008
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	<i>Reporting Period: 1 October 2005 – 31 March 2006, Annual Report No 1.</i>
Project website	<a href="http://www.sun.ac.za/limbovane">www.sun.ac.za/limbovane</a>
Author(s), date	<i>Kirsten Mahood, Brigitte Braschler, Sue Shaw, Steven Chown and Kevin Gaston</i>

## 2. Project Background

The limbovane Outreach Project is implementing a biodiversity monitoring programme that improves teacher and learner knowledge of, and skills in, spatial patterns of biodiversity and ecosystem functioning, and their change over time. The project is based within the Western Cape Province (WCP) of South Africa and involves grade 10 life science learners of 10 schools selected for the project. In conjunction with the schools project limbovane team members collect ants in additional pristine sites to examine ant diversity patterns over large spatial and temporal scales, and their likely mechanistic underpinnings.

South Africa's second report to the Convention on Biological Diversity states that invertebrate monitoring and inventorying is poorly developed for this country. In addition, the Framework Convention on Climate Change Country Studies Programme for South Africa identified the lack of knowledge on how species are distributed in the matrix and how these distributions are changing as major constraints. In South Africa, there is virtually no annual monitoring of biodiversity, with the exception of water bird counts and smaller-scale monitoring of selected taxa within individual protected areas. The limbovane project is making a significant contribution to establishing an inventory and monitoring programme for an important group of insects (ants), which are also widely agreed to be excellent indicators of the effects of landscape change. This is especially important in the fynbos biome of South Africa, where approximately 20% of the 6500 strictly fynbos plant species rely on ant assisted seed dispersal.

## 3. Project Purpose and Outputs

This project will provide a biodiversity inventory and monitoring scheme that, using ants as an indicator group, not only enables monitoring of diversity through time and space, but contributes to capacity building and education at the secondary school level. Annex 1 contains the logical framework for the 2005/2006 year, as well as progress against this framework.

Outputs include established baseline patterns of ant diversity for the WCP, a biodiversity monitoring programme established and functioning in 10 schools, and teacher training. Progress against these outputs is included in Annex 1.

The outputs and proposed operational plan have not been modified over the last year. However, due to the rate at which the project is progressing, many of the outputs planned for the first year have already been achieved. This may release capacity to increase the scope and extent of the project to either include more sampling sites or increase the number of schools participating in the project or provide the opportunity to explore additional biodiversity questions arising out of the work that has already been done.

#### 4. Progress

The project was developed by Professor Kevin J. Gaston (PI, University of Sheffield, UK) and Professor Steven L. Chown (Stellenbosch University, RSA). Ms Kirsten Mahood was employed by Stellenbosch University in February 2005 to begin the groundwork for the project. The Western Cape Education Department (WCED) was contacted and various meetings were held with WCED and their stakeholders to discuss their involvement in the project and the project outputs. WCED accepted a formal proposal and assisted in the selection of 10 schools to take part in the project. Ms Natasha Kruger was employed by Stellenbosch University's Department of Botany and Zoology as a Science Liaison Officer in June 2005. Ms Kruger's time is split between the Department and the Imbovane project. Ms Kruger provides vital implementation capacity for the project.

Progress in Annex 1 is for six months (1 October 2005 – 31 March 2006), which is the duration for which the project has been active.

#### Agreed baseline timetable and progress:

Date	Key milestone	Progress / comments
Oct	2 press releases, 1 radio broadcast;	Both press releases and three radio broadcasts were made.
Oct	Planning workshop with project team to establish project, conduct detailed planning & coordination;	The planning workshop was held in South Africa, with UK and South African partners attending. Part of the workshop time was also spent viewing potential sampling sites. Issues of reporting and administration were also discussed.
Nov	Schools identified and participation agreed;	Ten schools were identified and agreed to take part in the project. School implementation was moved forward to increase the number of sampling periods for ant biodiversity (which are usually March and October), and to ensure both regular contact with, and buy-in from the schools and teachers.
Nov	Teacher information workshop;	A half day teacher's information workshop was held on 12 <sup>th</sup> November 2005. The workshop was attended by teachers, headteachers and curriculum advisors from nine participating schools (one school excused due to death in the family).
Feb - Mar	Major transects established by project staff, sampled & data extracted;	Two transects running east-west in the WCP were selected and preliminary sampling was carried out in November 2005. Data collected were used to start the ant determination programme, to develop the ant keys and build the reference collections. Transects were sampled in full during February and March 2006.

Dr Brigitte Braschler was employed by the University of Sheffield in October 2005 to provide ant expertise and scientific assistance to the outreach activities and conduct research on ant diversity patterns.

After the initial planning workshop, in October 2005, the project team carried out preliminary sampling in November 2005, covering all habitat types and the full extent

of the area. Preliminary sampling sites were assessed and expanded to include 26 study sites and permits for research were obtained. Sites include nine school grounds, one modified municipal land parcel near a further school, four national parks, 10 other nature reserves and two pristine areas managed by local municipalities.

A preliminary ant reference collection has been established using ants from the trial sampling. The reference collection has been compared to a reference collection from the Coast to Karoo transect ant research project managed by the Centre for Invasion Biology (C-I-B) in the Cederberg Area of the WCP to ensure consistent labelling of undescribed morphospecies in C-I-B ant research projects.

Complete sampling of the two limbovane transects was carried out in February and March 2006. Ants were collected in all sites (two grids of 10 traps per grid, exposed for 5 days) using pitfall trapping. Learners from selected schools were involved in collecting ants, and conducting vegetation transects in school grounds. In three cases schools were also able to carry out sampling in nature reserves. Pilot studies were conducted by trapping ants in additional habitats (e.g. restored fynbos) to assess the feasibility of further work. A range of environmental variables has been measured for all sites (slope, aspect, elevation, latitude, longitude, vegetation cover, composition and height, amount of litter, rock and larger stone cover), and further variables were also assessed for each site (soil type, degree of disturbance). In the future, soil samples will also be taken, commencing in the next sampling period planned for October 2006.

The first teacher information workshop was held on 12<sup>th</sup> November 2005 (see table above for details).

The first teacher training workshop was held on 27<sup>th</sup> and 28<sup>th</sup> January 2006 (see: [www.sun.ac.za/limbovane/news.htm](http://www.sun.ac.za/limbovane/news.htm)). This was an intensive workshop where teachers (and one curriculum advisor) from all schools taking part in the limbovane project worked through the entire scientific process of the project. Teachers were given background lectures on biodiversity, ant biology and the scientific method. Teachers were also introduced to the methods applied in the limbovane project through field and laboratory practicals. The workshop also included computer practicals on data handling and analysis and the presentation of results. Brainstorming sessions to develop lesson plans and worksheets to be used in the classroom in preparation for learner sampling concluded the workshop. The limbovane team produced worksheets (see Appendix 1) and lesson plans to be used by the schools in the implementation phase of the project.

The fast uptake of the project within the WCP has seen the limbovane team receiving requests from WCED to assist with training workshops on biodiversity for teachers. The limbovane project team will also give additional biodiversity and science lectures to learners at the limbovane schools. Many of the schools have asked if lectures could be given to grade 11 and 12 learners, not only to grade 10 learners.

The limbovane project team has developed a Memorandum of Understanding (MoU) outlining the roles each of the partners within South Africa will play. WCED is currently reviewing the MoU, which will be signed by the Director of the C-I-B (Prof. Chown) and the Head of each of the schools once it has been finalised. A copy of the MoU is attached in Appendix 2.

Ms Mahood was asked by the South African Environmental Observation Network (SAEON) to co-present a plenary talk at the first SAEON Summit on the implementation of outreach projects in schools, using the limbovane project as a working example. Dr Braschler also presented a poster (which generated a lot of interest) on the limbovane project at the summit. (See also Section 11, Appendix 3 and 4).

### **Challenges:**

Working with ten schools has presented its own challenges. Each school has different requirements and involves diverse people. Some of the schools are

especially poorly skilled and equipped to deal with biodiversity or cope with using information and communication technology in the classroom. However, during various contact sessions and workshops teacher development has taken place, providing teachers with skills to implement the limbovane project in their classrooms. The lack of biodiversity knowledge is being overcome through WCED's willingness to provide teachers with additional training.

Implementing the limbovane project at schools in late March (standard sampling season) could present a challenge, as this is when learners are taking exams and interruptions at the school are kept to a minimum. There could also be an overlap into school holidays, when learners would not be available. Finding a time when teachers would be willing to come for training is a difficulty. However, this has been overcome by developing a successful partnership with the WCED, who now allow teachers to miss two days of teaching to attend project training workshops.

Ordered versus invoiced costs for the payment of goods needed by the project can be a difficulty, as the South African partner needs to reconcile for these amounts, which can vary. The Stellenbosch University invoicing system allows the reconciliation to take place two months after invoicing. This prevents Stellenbosch University from invoicing Sheffield for the correct amount at the end of each financial quarter. The limbovane team has arranged meetings with the Stellenbosch University financial Department to overcome this problem.

The design of the project has been enhanced over the last year. After November 2005 sampling field sites were refined to include control sites within reserves for each of the schools, as well as additional reserve sites to ensure a continuum of sites within the transects. Pilot sites have been sampled to explore potential additional questions that could be added in future sampling periods.

Measuring achievements is discussed under section 10 in this report.

### ***Workplan for the next reporting period (April – September 2006)***

April 2006:	Completion of ant sampling.
May 2006	Submission of reports for 3 national parks and 1 municipal nature reserve. School visits to hand over finalised electronic ant guide and reference collections and deliver equipment (microscopes, computers etc). Also to give lessons on the scientific method and biodiversity.
June 2006:	Grade 10 to 12 teacher training in biodiversity
July/August 2006:	Handover of ant and vegetation data to schools
August 2006:	2 <sup>nd</sup> limbovane planning workshop, including meeting between partners from the University of Sheffield and Stellenbosch to discuss progress and the way forward.
Throughout:	Ongoing determination of ants collected from schools and reserves and development of the ant reference collection. Input of ant and vegetation data into databases.

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

- N/A

### **6. Partnerships**

The partnership between the UoS and C-I-B has been working well, with great assistance coming from the UoS partners. The start-up meeting, attended by the three main project participants from each partner institution, was held over three days in October 2005, and was extremely successful and useful. One of the days was spent visiting potential research sites within the WCP. Dr Braschler (UoS) has remained in South Africa for the full period, working closely with the rest of the group; Dr Braschler and Prof Gaston remain in touch by e-mail. The other UoS and SA partners have also been in regular contact. The PIs are in weekly contact by e-mail

and by voice over internet discussions. Dr Shaw and Ms Mahood are in regular contact regarding various administrative issues relating to the project, ensuring sound project management.

The project team has established links with BIOTA (<http://www.biota-africa.org/1024/frames/biota-africa.htm>), and has identified two sampling sites being used by BIOTA as sites for the limbovane project. limbovane has four sampling sites within South African National Parks, who carry out long term research on various biodiversity issues within the Parks network. SAEON as well as the South African Agency for Science and Technology Advancement (SAASTA) have shown great interest in working together with the limbovane team in the future. limbovane have also been approached by the CyberTracker (see: [www.cybertracker.co.za](http://www.cybertracker.co.za)) organisation to become involved in developing an icon-based electronic ant identification key that can be used on palm-tops and other hand-held devices.

Collaboration with other researchers within the C-I-B who are undertaking ant biodiversity studies (mostly on invasive species) has also been established. Meetings have been held with this group to write two joint publications. Agreement has also been reached to compile a joint ant reference collection for ongoing use by researchers in the WCP.

## **7. Impact and Sustainability**

The project has considerable profile thanks to the work of the project staff in disseminating information about the project to a variety of audiences. A newspaper article was written about the work in one of the WCP daily newspapers, and a 15-minute interview on the "Cape to Midnight" talk show, on the South African Broadcast Corporation (SABC) SAfm radio station was also held. This was followed by an additional interview for the Cape to Midnight show in January 2006 and an additional radio interview for "Radio Sonder Grense". In November 2005 Prof. S.L. Chown was interviewed on the Radio Sonder Grense (SABC Afrikaans radio) youth programme ID to discuss landscape change, ants and a career in the biodiversity sciences (see Annex 1 for more details).

The project was also promoted by a successful "public launch" of the project ([www.sun.ac.za/iimbovane/news.htm](http://www.sun.ac.za/iimbovane/news.htm)), where teachers were presented with memorabilia from the project, including Darwin pins. This function was attended by potential funders, local conservation groups, and various media organisations.

The limbovane project has received publicity in many local weekly community newspapers, mostly featuring limbovane project team visits to local schools (newspaper articles can be seen in Appendix 4). The project is also featured on a variety of web pages (see Table 2). The WCED has reported in detail on the project on their website: <http://curriculum.wcape.school.za/site/27/page/view/>. The limbovane project team members have been approached regularly to write articles about the project for various newspapers and newsletters. This is a good indication of the growing interest in biodiversity and this project in particular.

The WCED's request to provide additional training for teachers and curriculum advisors is a positive indication that the project is having a growing impact within the schools system. This is also an indication of the success of the teacher training that limbovane has been involved in to date.

Teachers have provided additional input to the project by requesting learners to do homework on their experiences of sampling ants. This, together with the fact that teachers are using the worksheets developed by the limbovane project in the classroom indicates buy-in from teachers. The limbovane project team has had numerous requests for these worksheets from other outreach organisations and other schools. The cooperation received from teachers and headteachers at the schools clearly indicates that limbovane has been accepted as part of the schools programme.

The WCED has approached the limbovane project team to provide additional training in the biodiversity field to teachers during a series of workshops for grade 10 – 12 life

science teachers. The limbovane project team has also been asked to franchise the project to schools that have the correct equipment and facilities to run the project, but do not have the skills. This is an excellent indicator of increasing capacity for biodiversity and a growing interest in the field.

During the sampling period in March 2006 numerous technical university students completing practical periods on reserves were asked to assist the limbovane project team. Of these students, two have requested assistance from limbovane project team members in their work programmes.

The South African partner (C-I-B) is committed to support the project beyond the time it receives funding from the Darwin Initiative. Additional potential funders have been identified and will be approached within the next year to begin to secure funding for the project to ensure its existence beyond the three years of funding from the Darwin Initiative.

The development of lesson plans and supporting material for schools has enabled the WCED to franchise the project to additional schools without direct involvement from the limbovane project team. The relatively low demands on materials allow schools with limited resources to implement the project on their own. Teachers empowered by the limbovane project may serve as lead teachers who can assist in the implementation of the project in other schools. Although the post-doctoral position will be concluded after the first three years of the project, there are opportunities for continued research and human resources development.

## 8. Outputs, Outcomes and Dissemination

All agreed outputs for the current year have already been achieved within the first six months, together with several additional outputs (see Table 1). The limbovane project team generated more publicity through press articles and radio interviews than required for the year. Dr Braschler has remained in South Africa for the full six month period, rather than the three months anticipated. Training materials (worksheets) have already been produced and used in the teacher training and subsequently by the teachers in the classrooms. They include a general guide to ants, how to make and use a key, how to identify an ant, setting and collecting pitfall traps, vegetation survey and parts of a microscope.

The figure given for 'additional resources raised' (output 23, Table 1) is lower than anticipated, but the final figure has still to be agreed with Stellenbosch University.

The limbovane website ([www.sun.ac.za/iimbovane](http://www.sun.ac.za/iimbovane)) was developed and launched in November 2005. This site is updated regularly with new project information, and is fully accessible externally.

Dissemination of information about the project has been through radio interviews (three in host country) and newspaper articles (see Tables 1 and 2). An insert on the limbovane project for a local television show called "Groen" (Green in English) has been filmed and will be released early in the next reporting period. limbovane was also the topic of a plenary lecture at the SAEON Summit (see section 4 for more details). Dissemination will continue through local newspapers, radio stations and various website articles.

The C-I-B anticipates continuing the project for both its outreach and research outputs and is currently sourcing additional funding to ensure that the project continues beyond the Darwin Initiative funding period. Should additional funding be secured, the dissemination of information will continue in the host country.

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

*Additional (or increased) outputs are indicated by an asterisk*

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
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15A/B	National/local articles in SA (incl. websites)	5	3
15C/D	National press release in UK	1	1
14A	Planning workshop, Teacher information workshop, Teacher training workshop*	3(*)	3
14B	SAEON Summit – plenary paper and poster	2	2
8	Weeks spent in host country	27(*)	27
23	Additional resources raised		tbc
19A	National Radio Interviews in SA	3*	3
7	Number of training materials produced	6*	6

**Table 2: Publications and other publicity materials**

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Programme for the SAEON Summit*	“Extra-curricular high school science education programmes and monitoring” B.A. Damonse, K. Mahood & S. Makoena 2006	SEAON Summit, Pretoria	<a href="http://www.saeon.ac.za/summit/SAEONSu mmit2006PaperAbstr acts.pdf">http://www.saeon.ac.za/summit/SAEONSu mmit2006PaperAbstr acts.pdf</a>	Free
Programme for the SAEON Summit*	“limbovane: Exploring South African biodiversity and change” B. Braschler, K. Mahood, S.L Chown, N. Kruger and K.J. Gaston 2006	SEAON Summit, Pretoria	<a href="http://www.saeon.ac.za/summit/SAEONSu mmit2006PaperAbstr acts.pdf">http://www.saeon.ac.za/summit/SAEONSu mmit2006PaperAbstr acts.pdf</a>	Free
Newspaper*	“Pupils project puts ants in their pants” J. Yeld, December 2005.	Cape Argus, Cape Town	<a href="http://www.capeargus.co.za/index.php?fSectionId=49&amp;fArticleId=3041364">http://www.capeargus.co.za/index.php?fSectionId=49&amp;fArticleId=3041364</a>	Free
Newspaper*	“Jonges het miere”. (English = Youth have ants) E. Duvenage, January 2006.	Paarl Post, Paarl (community newspaper)	Scanned copy available from host country limbovane office	Free
Newspaper*	Picture of teachers on the training workshop with a caption February 2006	Paarl Post, Paarl	Scanned copy available from host country limbovane office	Free



Website	Promotion for future show for the "Groen" television show (February 2006)	Homebrew Films, Cape Town	<a href="http://www.groen.co.za/news_february.htm">http://www.groen.co.za/news_february.htm</a>	Free
University of Stellenbosch website for the Science Faculty newsletter	C•I•B uses ants to teach biodiversity basics Engela Duvenage January 2006	Stellenbosch University, Stellenbosch	<a href="http://www.sun.ac.za/News/NewsItem_Eng.asp?Lang=2&amp;ItemID=9316&amp;Zone=AEX">http://www.sun.ac.za/News/NewsItem_Eng.asp?Lang=2&amp;ItemID=9316&amp;Zone=AEX</a> and <a href="http://academic.sun.ac.za/science/newsstudents.htm">http://academic.sun.ac.za/science/newsstudents.htm</a>	Free

\* See Appendix 4

## 9. Project Expenditure

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

## 10. Monitoring, Evaluation and Lessons

From a capacity building perspective, a major indicator of achievements is the interest shown by the schools and the number of additional requests for biodiversity training assistance received from the WCED. The first is being assessed by the extent of our involvement in worksheet and lesson plan drafting, and the second by the numbers of requests received from WCED. Lead teachers from each school will also have to write a one to three page report to the WCED (copied to the limbovane team) at the end of each school year (December) on the impact that the limbovane project has had at their school. This report will be a major indicator of the success and shortfalls of the project within the school context. The limbovane team is currently examining additional ways to measure success, such as the Grade 12 (school leavers) pass rate in life science at schools where the project is being

implemented. Accumulation of identified ant samples, the growth-rate of school reference collections and image banks, and the increasing sophistication of the ant keys are all indicators of the extent to which the project is addressing its purpose. The publication of scientific and popular works on the field covered by the project and using data or events from it constitute additional indicators, and numbers thereof are being measured.

One of the biggest lessons learned during the first six months is the importance of acceptance by host country project collaborators, such as WCED to ensure project success. It was important that WCED accept the project before approaching individual schools and teachers. Teacher selection has also been vital to the success of the project. Guidance from WCED was essential to select teachers who were most likely to promote and accept the limbovane project within their schools.

### **11. Outstanding achievements of your project during the reporting period**

The fact that the limbovane project is up and running and has been implemented in 10 target schools within the Western Cape within six months of start-up is a significant achievement. It could not have been reached without a cohesive team from both the host country and the UK partners managing the entire process, from planning to training and implementation. The project is already ahead of schedule in many areas, and has also established several partnerships with other research groups and outreach organizations working in the biodiversity arena in South Africa.

Ms Mahood was asked to co-present a plenary talk on the limbovane project as a working example of an environmental education outreach project at the SAEON Summit, which was held from the 26<sup>th</sup> to 28<sup>th</sup> of March 2006. This plenary session was then followed up in the workshop session on environmental education by a 45 minute presentation by Ms Mahood about the details of limbovane. The response to the presentation was overwhelmingly positive, with many people using the project as an example of implementation in parallel workshops. Sibongile Mokoena (SAEON Coordinator: *Environmental Science & Outreach Education*) sent a letter of thanks stating that: *“The limbovane presentation clearly demonstrated the integration of environmental monitoring into the school curriculum. You convincingly, successfully and unapologetically put science education outreach squarely in the midst of a high powered science summit.”*

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

Annex 1a: Original Logical Framework

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Goal:</b>  <b>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</b></p> <ul style="list-style-type: none"> <li>• the conservation of biological diversity,</li> <li>• the sustainable use of its components, and</li> <li>• the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>Ant diversity monitored in Western Cape (WC) &amp; strengthened monitoring capacity and education at secondary school level in region</p>	<p>New knowledge on dynamics of ant diversity in WC</p> <p>Biodiversity monitoring scheme functioning by yr 3</p> <p>Improved understanding of biodiversity amongst learners</p>	<p>South African partner institutional reports</p> <p>Peer-reviewed publications by project partners</p>	<p>Schools agreement and participation</p> <p>Continued enthusiasm of teachers &amp; learners</p>
<p><b>Outputs</b></p> <p>Biodiversity monitoring programme established &amp; functioning in 10 schools</p> <p>Trained teachers</p> <p>Baseline patterns of ant diversity established</p> <p>Lessons learned &amp; best practice disseminated</p>	<p>Participation by schools and take up of keys</p> <p>Minimum of 10 staff trained by yr 3 in ant biodiversity assessment</p> <p>2 papers published in international scientific journals by end of yr 3</p> <p>Minimum of 1 radio broadcast, 2 popular articles published</p>	<p>Reports from schools to WC Education Department</p> <p>Reports from schools to WC Education Department</p> <p>Copies of publications sent to Darwin Initiative</p> <p>Copies of all publications &amp; recordings sent to Darwin Initiative</p>	<p>Ongoing availability of taxonomic expertise</p> <p>Trained staff remain in participating schools</p> <p>N/A</p> <p>N/A</p>

<b>Activities</b>	<b>Activity Milestones (Summary of Project Implementation Timetable)</b>
Workshops	<p>Yr 1: Planning workshop with project team to establish project, conduct detailed planning &amp; coordination; Yr 1: Teacher information workshop; Yr 2: Teacher training workshop on sampling and implementation; Yr 2: Schools implementation visits; Yr 2: Progress &amp; planning workshop with project team &amp; stakeholders; Yr 3: Progress &amp; planning workshop with project team &amp; stakeholders; Yr 3: Second teacher information workshop; Yr 3: Teacher training workshop on interactions; Yr 3: Schools implementation and follow on visits</p>
Sampling and identification programme	<p>Yr 1: Major transects established by project staff, sampled &amp; data extracted; Yr 1: Schools identified and participation agreed; Yr 1-3: School sampling established, samples sorted &amp; data extracted; Yr 2-3: Continued sampling of transects &amp; data extraction; Yr 2-3: electronic, image-based keys developed and tested; Yr 3: Monitoring programme and inter-school contacts established</p>
Data analyses	<p>Yr 1: Database system established and populated with test data; Yr 2-3: Database populated; data from sampling analysed; Yr 3: Analyses written up</p>
Publicity material	<p>Yr 1: 2 press releases, 1 radio broadcast; Yr 2: 2 popular articles, 2 press releases; Yr 3: 2 press releases and television coverage solicited, 2 papers submitted to international scientific journals</p>

**Annex 1b. Report of progress and achievements against Logical Framework for Financial Year: 2005/2006**

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
<p><b>Goal:</b> 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"> <li>• The conservation of biological diversity,</li> <li>• The sustainable use of its components, and</li> <li>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>Ant diversity monitored in Western Cape (WC) &amp; strengthened monitoring capacity and education at secondary school level in region</p>	<p>New knowledge on dynamics of ant diversity in WC</p> <p>Biodiversity monitoring scheme functioning by yr 3</p> <p>Improved understanding of biodiversity amongst learners</p>	<p>The project has only been operational for six months, but has already been implemented in 10 target schools. The data collection / monitoring scheme has been developed and is beginning to function following the first sampling period.</p> <p>There are currently no measurable outcomes for improved understanding of biodiversity. However, teacher capacity building has commenced and is now feeding down to learners.</p>	<p>Teacher selection and buy-in is essential to project success.</p> <p>It is now essential to further develop the relationship between the project team and various members of WCED (curriculum planners, teachers and learners). This will be done through regular (quarterly) contact sessions.</p> <p>Data from the first sampling period will be extracted to begin determining the dynamics of ant biodiversity within the WC. The second sampling period will be in October 2006, where learners will be involved again. Dr Braschler will co-author a collaborative paper on ant diversity in the WCP.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
<b>Outputs</b>			
Biodiversity monitoring programme established & functioning in 10 schools	Participation by schools and take up of keys	<p>School identification was concluded in October 2005. This was done ahead of schedule to ensure smooth integration into the project as soon as the official launch of the project was completed.</p> <p>In March 2006 all schools were visited. Learners were given an introductory talk on the aims of the project and the methods applied. Learners were taken outside the classroom and supervised while collecting ants and conducting vegetation surveys. Each school was visited twice, once for setting traps and once for collecting. All non-school sites were also sampled at this time.</p>	<p>It is essential to have buy-in from the provincial education authorities from the start of the project to ensure that implementation runs smoothly. It was important to base the project within the school curriculum, making it more accessible and useful for teachers and learners. Successful uptake was also due to the school selection, which was based on the potential willingness of the lead teacher to take part in the project. Much of the success of the programme relies on the lead teacher to implement effectively at schools.</p> <p>Regular contact with the schools will ensure their continued support. The keys and reference collections will be delivered to the schools during May and June 2006. There will be an additional school contact session in August 2006 and then again in October 2006 and March 2007, when sampling takes place.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
Trained teachers	Minimum of 10 staff trained by yr 3 in ant biodiversity assessment	The first teacher training workshop was held on the 27 <sup>th</sup> and 28 <sup>th</sup> of January 2006. (See section 4 of this report for details). This workshop was held earlier than planned due to the sampling periods for ant biodiversity in the Western Cape, which are March and October annually.	It is important to feed additional information on biodiversity and ants and the context of the project to teachers to maintain their interest and knowledge within the subject of biodiversity, capacitating them to pass their knowledge on to learners. Informal teacher training will continue through the informal contact sessions.
Baseline patterns of ant diversity established	2 papers published in international scientific journals by end of yr 3	One sampling season has been completed.	Data analysis will continue through the year to assist in the determination of patterns in ant biodiversity. We hope to submit two collaborative scientific papers in the next reporting period.
Lessons learned & best practice disseminated	Minimum of 1 radio broadcast, 2 popular articles published	<p><u>Press articles:</u> Cape Argus (8 December 2005) Paarl Post (19 January 2006) Paarl Post (9 February 2006)</p> <p><u>Radio broadcast:</u> Interview with project team members on SAfm's Cape to Midnight 20h30 environmental slot on 11.11.05; (SAfm is the national broadcaster's English radio service).</p> <p>Ms Mahood and Mr Hein Adonis</p>	<p>Media coverage in the host country has exceeded expectation. We will continue to seek opportunities to promote and disseminate information about the project through the media and attendance at conferences.</p> <p>Through contacts already established the project team will also approach various radio stations to carry out further interviews to highlight the work being done through the project.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
		<p>(teacher) interviewed on SAfm's Cape to Midnight 20h30 environmental slot (30.01.06).</p> <p>Ms Mahood interviewed on Radio Sonder Grense (05.03.06). (Radio Sonder Grense is SABC Afrikaans radio service.)</p> <p>Prof. Chown interviewed on Radio Sonder Grense (November 2005). on the youth programme ID to discuss landscape change, ants and a career in the biodiversity sciences.</p>	