

# **Darwin Initiative for the Survival of Species**

## **Annual Report**

### 1. Darwin Project Information

#### STAFF / OFFICERS

Project Ref. Number	162/12/004
Project Title	Building capacity for conservation of a critically endangered flagship species
Country(ies)	Kenya
UK Contractor	Zoological Society of London
Partner Organisation(s)	IUCN SSC AfRSG, Kenya Wildlife Service
Darwin Grant Value	£175058
Start/End dates	1 June 2003 – 31 March 2007
Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	1 Apr 2003 to 31 Mar 2004
Project website	<a href="http://www.zsl.org">www.zsl.org</a>
Author(s), date	Dr R. Amin, Dr R. Emslie, K. Adcock, M. Mulama (23 <sup>rd</sup> April 2004)

### 2. Project Background

This project implements identified priorities listed in the Kenya 5-year Black Rhino Strategy (KBRS), which has been endorsed at the highest level within Kenya Wildlife Service (KWS). The project has been developed in collaboration with the KWS rhino programme co-ordinator and the KWS rhino scientist, alongside input from the IUCN SSC African Rhino Specialist Group's Scientific Officer and a technical expert member of the group. Kenya holds 86% of the estimated 500 remaining critically endangered eastern black rhino (*Diceros bicornis michaeli*). The 5-year KBRS has given highest priority to their biological management to help achieve and maintain rapid meta-population growth to increase rhino numbers. Specific training and capacity-building in rhino monitoring (from field data collection to end-reporting) has been identified as urgently required. Procedures to assess black rhino habitat carrying capacity have become a necessity to assist in developing new viable populations in Kenya and to manage existing rhino sanctuaries, most of which face loss of suitable habitat through high rhino- and competing browser- densities. Delivering these objectives meets the CBD and coincides with key objectives of the 1998 Kenyan National BAP, namely building technical capacity, improving access to resources and training, and strengthening of research and monitoring capacity.

### 3. Project Purpose and Outputs

This project's purpose is to develop a team of skilled Kenyan researchers and park field personnel capable of significantly contributing to the achievement of one of Kenya's key conservation goals: namely, increasing the numbers of the Critically Endangered eastern black rhino (*Diceros bicornis michaeli*), and conserving its natural habitat. It aims to develop human capacity and procedural mechanisms within

the Kenyan Rhino Conservation Programme to 1) train personnel in field rhino monitoring, data collection, analysis and reporting; 2) produce standardised annual rhino status reports which assess the numbers, performance and population dynamics of Kenya's black rhino populations to aid biological management decision making; and 3) assess black rhino habitat conditions and carrying capacities in fenced rhino sanctuaries, allowing the management of habitats by adjusting rhino and other browser population densities.

The project outputs are as follows.

i) 20 trained instructors (rhino officers) in rhino monitoring; ii) 20 trained officers undertaking rhino monitoring, data quality control, basic processing & reporting using the Rhino Information Management System; iii) 165 rangers trained in rhino monitoring (by local instructors with support and monitoring from Darwin Fellows); iv) 1 KWS rhino programme coordinator, 1 KWS rhino scientist and 10 rhino officers/researchers trained in the synthesis and interpretation of annual park and national rhino status reports; v) Standardised annual rhino status reports at both park and national level; vi) A black rhino ecological carrying capacity model for Kenya with estimates for 11 rhino parks; trained staff and set procedures for rhino habitat assessments; vii) 1 KWS rhino scientist trained in the use of RHINO mark recapture population estimation tool; viii) Fully operational Rhino Management Information System + GIS in 11 rhino parks and KWS headquarters; ix) 2 MSc, 1 BSc and 4 Certificate students trained in Wildlife and Sanctuary Management; x) 500 rhino conservation education booklets published and distributed to schools; xi) 2 peer-reviewed papers published; xii) 2 radio broadcasts.

The project logical framework is provided in annex-1. Two elements in the operational plan have been modified over the reporting year as follows.

1. The training of field staff in basic computer skills, use of standard software, data entry and reporting was originally planned as a 5-day workshop. However, a subsequent review showed that training was required to meet the needs of 1) officers who have hardly used a computer and 2) officers who possessed basic skills. It was therefore decided that a longer duration on-site training programme would be much more effective. A programme based an initial intensive eighteen week training (3 weeks for each of the six areas requiring training) with a follow-up support visit (approximately 1 week per area depending on progress) was implemented. This approach has worked extremely well allowing training to be conducted in small groups of 2/3 officers and progress to be carefully monitored.
2. The training of one field officer in Sanctuary Wildlife Management (Certificate course) could not start as planned (beginning of May) due to a delay in receiving the grant offer letter. This training (now for 12 officers) has commenced (April 04). Please see below (Section 4: Progress) for further details.

The project's progress and achievements are detailed in the following section.

#### **4. Progress**

In 2002, KWS, working with ZSL, the AfRSG and other stake-holders and NGOs, produced the Kenyan 5-year Black Rhino Strategy. Strategic priorities were identified, based on sound biological management principals. This strategic plan and its objectives were endorsed at the highest level within KWS, which committed core resources to the strategy. Stakeholder NGOs also committed funding to address short-term issues of supporting and upgrading necessary rhino sanctuary infrastructure. However, capacity building and specific training in rhino monitoring and habitat assessment; and implementation of procedural mechanisms and tools were urgently required. This project was subsequently developed jointly by ZSL, members of the IUCN SSC AfRSG and the KWS ( rhino programme coordinator and

rhino scientist) to meet these needs. The project started in July 2003 and a summary of progress and achievements for the first year is provided below (baseline timetable in brackets).

1. Training of field officers in Sanctuary Wildlife Management (Certificate course) at KWS Training Institute (June 03)

Registration was not possible in time for the start of the course due to delay in receiving the grant offer letter. This training is now being undertaken in April 04. The original project plan was to train 4 officers, over the 3 years, in Sanctuary Wildlife Management at Certificate level (1 in years-1, 3 and 2 in year-2). However, following discussions with the Principal of KWS Training Institute (Prof. George Owiti), a reduction in the accommodation fees has been agreed (from 800 Kenya shillings to 400 Kenya shillings per day) allowing 2 extra officers to be trained. The project has also used this as a leverage to obtain extra funding from USAID to enable 2 officers from each of the six national reserves requiring capacity building to attend the course. All 12 officers have now started the course (13<sup>th</sup> April 04). It was felt that it would be much more productive and cost effective to train all the officers as one group. The course would also be tailored to meet some of the specific needs of the programme. The UK and Kenyan Darwin Fellows (R Amin, M Mulama) will be teaching key modules (Sanctuary Wildlife Management Techniques, Community Wildlife Management & Wildlife Utilisation - please see supplementary item Ref: 162/12/004-S1 for the course contents). Further discussions with the Principal have also taken place regarding the set-up of a BSc training programme in Wildlife Management.

Extra outputs/activities:

(i) Training of 8 extra officers in Sanctuary Wildlife Management (Certificate course).

(ii) Teaching of specific course modules:

- Sanctuary Wildlife Management Techniques
- Community Wildlife Management
- Wildlife Utilisation

(iii) Possible set-up of a BSc training programme in Wildlife Management.

2. Development of formal theoretical examinations and practical tests for accreditation of rhino monitoring instructors/trainers and field rangers (August 03)

Status: completed August 03 (please see supplementary item Ref: 162/12/004-S2 and 162/12/004-S3).

3. Training of rhino monitoring instructors - AfRSG monitoring course (end Sept 03) 6-day workshop held at Lake Nakuru National Park - 6<sup>th</sup> Oct 03 – 11<sup>th</sup> Oct 03. 26 officers were trained). 18 officers passed the training course (theoretical and practical exams - please see supplementary item Ref: 162/12/004-S3 for complete report). The monitoring course material has again been updated and is available in PDF format.

4. Development of Rhino Information Management System and GIS with user manual (August 03)

Status: version 2.0 completed August 03 (please see supplementary item Ref: 162/12/004-S4).

5. Training guidance notes for training of field officers in data quality control, basic data processing and reporting using the Rhino Information Management System and standard software packages (Oct 03)

Generation of Rhino Information Management System manual - status: completed August 03 (please see supplementary item Ref: 162/12/004-S4).

Development of data quality control procedures – status: version 1.0 completed October 03 (please see supplementary item Ref: 162/12/004-S5 Section 4).

Production of training notes for standard software packages (Microsoft Word, Excel) – status: version 1.0 completed Dec 03. (please see supplementary item Ref: 162/12/004-S6:a,b,c,d)

6. Implementation of Rhino Information Management System + GIS with user manual and tutorials in 9 rhino parks and KWS headquarters (Oct – Nov 03)

Status: System installed and user training completed in 8 parks (Oct – Nov 03), Masai Mara G.R. currently being completed. the Masai Mara computer developed a major fault during the start of the project and was repaired in Mar 04 through its existing warranty.

7. Training of field staff in rhino monitoring data quality control, entry, basic processing & reporting (9 rhino parks) (Oct – Nov 03)

Training of 20 rhino staff in data quality control procedures – status: completed Oct – Nov 03.

Training of 20 rhino staff in the use of the Rhino Information Management System – status: completed Oct – Nov 03.

Implementation of data quality control procedures – status: completed Oct – Nov 03.

Set-up of individual rhino identification master files, a task is being completed – status: completed Oct – Nov 03 (please see supplementary item Ref: 162/12/004-S5: Section 3 and Appendices A1,A2, A7) (*extra output*).

Update of current and past rhino computer records, a task which is being completed – status: completed Oct – Nov 03. (*extra output*).

Design of a standardised sanctuary monthly reporting template - status: completed and being implemented (please see supplementary item Ref: 162/12/004-S5: Appendix A10) (*extra output*).

Development of Patrol Grid Maps – status: completed for areas requiring maps: Lake Nakuru N. P., Tsavo East N.P., Tsavo West N.P.(Ngulia Rhino Sanctuary), Nairobi N.P., Aberdare N.P. (please see supplementary item Ref: 162/12/004-S7) (*extra output*).

200 rhino sighting form booklets provided (completed Oct 04).

KWS Rhino Sighting Form: Design reviewed, plate produced and 1000 booklets being printed (please see supplementary item Ref: 162/12/004-S8) (*extra output*).

Training of 20 officers in basic computer skills, standard software packages and reporting

An intensive 18-week training programme (3-weeks for each of the 6 parks requiring training) has been implemented. Training in 4 parks has been completed. Training of Masai Mara G.R. staff is currently being carried out followed immediately by Aberdares N.P. starting 1<sup>st</sup> May 04 (changed from 5-day workshop). A suitably qualified KWS staff member has been trained as an instructor (*extra output*).

8. Training of field rangers in rhino monitoring (intensive on-site training by local instructors with support and monitoring from Darwin Fellows) (Oct – Nov 03)

Training of field rangers in rhino monitoring techniques in 9 rhino parks - status: Partially completed - approximately 6 of 12 modules completed by most rangers each rhino area during Oct – Nov 03 (training is now regularly being carried out by the local instructors with support through on-site visits and email).

20 rhino officers trained as instructors (with practical tests conducted) in the use of GPS receivers - status: completed Oct – Nov 03 (follow-up support is now being provided through on-site visits and email).

9. Compilation of available environmental information for development of black rhino Ecological Carrying Capacity model (Oct - Nov 03)

status: 90% completed Oct – Nov 03. Some information was not available at the time of field visits to the rhino areas and outstanding items will be obtained during next visit (July 04).

### **Other on-going activities**

1 Kenyan rhino officer: 2-year MSc in Wildlife Management, Moi University (Oct 03 – Sept 05). This course started in January 04 due to a university lecturers' strike. However, it is anticipated that the teaching element of the course will be completed in time (Oct 04 followed by one year field project).

Rhino Programme scientist: 1-year UK-based MSc in Conservation Biology (DICE, University of Kent) (started Oct 2003). The written exams are being held in April 04. The six month field project will commence beginning of May and is based on the study of rhino population dynamics and the development of status reports.

1 Rhino officer/ranger: Certificate in Sanctuary Wildlife Management. Due to delay in official project award letter this is now being undertaken in April 04 with 11 other officers.

### **Project material developed/provided (includes extra outputs)**

1) Rhino monitoring training posters: One set of AfRSG training posters provided to each of the following 13 parks/reserves: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Chulu Hills N.P., Masai Mara G.R., Aberdare N.P., Meru N.P., Lewa Downs P.S., Ol Jogi G.R., Sweetwaters G.R., Solio G.R., l'Ingwesi Group Ranch and KWS Headquarters (please see supplementary item Ref: 162/12/004-S9).

2) Rhino monitoring instructors training manual: A AfRSG manual provided to each of the 26 participants of the Instructors workshop. (please see supplementary item Ref: 162/12/004-S2).

3) Trainee's guide: Swahili version produced and 20 copies provided to each rhino park / reserve. English versions of the guide were also provided: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Chulu Hills N.P., Masai Mara G.R., Aberdare N.P., Meru N.P., Lewa Downs P.S., Ol Jogi G.R., Sweetwaters G.R., Solio G.R., l'Ingwesi Group Ranch and KWS Headquarters (please see supplementary item Ref: 162/12/004-S10).

4) KWS Rhino Sighting Form: Design reviewed, plate being produced and 1000 booklets being printed (please see supplementary item Ref: 162/12/004-S8).

5) Field pocket rhino monitoring cards: 20 sets provided to each rhino park - Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Chulu Hills N.P., Masai Mara G.R., Aberdare N.P., Meru N.P., Lewa Downs P.S., Ol Jogi G.R., Sweetwaters G.R., Solio G.R., l'Ingwesi Group Ranch and KWS Headquarters (please see supplementary item Ref: 162/12/004-S7).

6) Black rhino Identification master files consisting of 3 ID files for males, females, previous animals. The master files have been set-up in the following parks: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Sweetwaters G.R, Masai Mara Game Reserve (please see supplementary item Ref: 162/12/004-S5: Section 3 and Appendices A1,A2, A7).

7) Kenya Black Rhino Management System with user manual. Developed and installed in the following parks: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Lewa Downs P.S., Ol Jogi G.R., Sweetwaters G.R, Masai Mara Game Reserve and KWS Headquarters (please see supplementary item Ref: 162/12/004-S4).

8) Data quality control procedures: Developed and provided to following parks: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Sweetwaters G.R. (some of the private reserves already have their own data recording procedures).

9) Rhino monitoring and management protocol document drafted (please see supplementary item Ref: 162/12/004-S5).

10) Standardised sanctuary monthly reporting template (see supplementary item Ref: 162/12/004-S5: Appendix A10).

11) GIS maps: Electronic GIS maps produced as Arcview shape files and incorporated into Kenya Rhino Management System GIS tool. Parks maps completed: Nairobi N.P., Lake Nakuru N.P., Tsavo West N.P. (Ngulia R.S.), Lewa Downs P.S. Park maps being refined: Aberdare N.P., Sweetwaters G.R.,

12) Paper Patrol Grid Maps: completed – areas requiring maps: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Masai Mara G.R. (please see supplementary item Ref: 162/12/004-S7).

13) Educational posters: One rhino and project information poster currently being produced with support from Amneville Zoo (France). These will initially be placed in Lake Nakuru N.P. (please see supplementary item Ref: 162/12/004-S11).

14) Training material for standard software packages (MS Word and Excel), computer basics and Windows 98/2000 operating systems (please see supplementary item Ref: 162/12/004-S6:a,b,c,d).

### **Methodologies and approaches**

The project is specifically designed to ensure that its benefits will continue despite staff changes through the implementation of an institutionalised on-site on-going modular training programme. The project has successfully trained 18 rhino officers in rhino monitoring (out of the 26 officers from 13 parks/reserves who attended the course). The training followed an outcomes-based approach and included formalised testing procedures to assess the degree of understanding/competence of trainees. Trainees were only accredited if specific set standards of knowledge and competence were shown for each key module (results of these tests are provided in the training report in supplementary item Ref: 162/12/004-S3). A framed Darwin certificate was presented to the 18 officers who passed. The 5 officers who were unsuccessful will be re-examined in during the next field assessment visit by Darwin Fellows. Another very promising officer who was away during the training will also be trained and examined during this field visit.

The newly trained instructors were extensively supported during an intensive 1 1/2 months on-site staff training programme. Almost all the instructors have been very good in training their fellow staff. The majority of them required minimal support and the Darwin Fellows and KWS headquarter staff have been extremely pleased with

the confidence the instructors have shown in delivering the course. The training has been undertaken both in Swahili and English and thus been very effective. The instructors are continuing training on an on-going basis. Their progress is being monitored through site visits and monthly reports. The institutionalised on-site on-going modular training programme allows new/transferred staff to enter/continue the training programme anywhere in the course, does not require additional funding, does not take staff away from station, and minimises time away from normal field duties; thus maximising the chance that training and rhino monitoring will continue into the future.

Specific data quality control procedures and tools have been set up in all parks. This has included the setup of rhino identification files (Rhino Identikits), sighting forms, and sighting handling procedures and protocols. Two experienced observers have been selected and trained as data quality controllers in each park. The field data quality control is working well in most areas. Masai Mara G.R. and Lake Nakuru N.P. require further support and an intensive 3 week support programme is currently being undertaken.

The development and implementation of the Kenyan Black Rhino Information Management system has been successfully completed. Two rhino staff with sufficient experience in the use of computers have been selected and trained in the use of the system (Darwin system operators). The system operators have been formally tested. Field data is now being entered on a regular basis (in most cases daily) in all parks except Masai Mara (due to a problem with the computer) and some parks are already doing basic data analysis. Most of the information in the revised park monthly report now being implemented is being provided by the system.

The development of a standardised monthly reporting process has further improved feedback both upwards to managers and downwards to park staff.

Pocket patrol grid maps have been developed in collaboration with field and KWS GIS staff for general patrol and monitoring work and logging patrol movements. These maps will also be very useful in situations where a GPS receiver is not available (being repaired, replaced or battery being charged).

Two highly motivated and well-established rhino officers have commenced MSc studies. This training will build technical capacity at a critical managerial level in the rhino programme. One MSc is based locally and the other based in the UK at University of Canterbury, DICE which has an international reputation in such training. The project has been used as a leverage to obtain additional funds from several sources (US Fish and Wildlife, Save the Rhino International, African Wildlife Foundation) to undertake this MSc in the UK.

Twelve of the most promising officers / rangers (selected on the basis of past performance record and interviews) have started a Certificate course in Sanctuary Wildlife Management. Once again additional funds have been obtained (from USAID) to take additional staff for training. This along with reduction in student accommodation costs (following discussions with the Principal, KWS Training Institute) has allowed two staff members from each of the 6 reserves requiring capacity building to attend the course. This training will significantly enhance technical management capacity at the park/reserve level - the majority of Kenyan rhinos are conserved in enclosed sanctuaries and the effective management of the sanctuaries is critical. For example, Lake Nakuru National Park is a fully fenced 188 Km<sup>2</sup> rhino sanctuary. It has over 100 black and white rhinos. It is also a Ramsar site with around 450 species of birds including a very large population of greater and lesser flamingos. Because rhinos and other large animals (e.g. buffalo and giraffe) can significantly modify their habitat, their occurrence at high density can severely impact on the community structure and biodiversity of the restricted area. In addition, the expanding nearby town is having a major impact on the park (pollution, alien plant species, community cooperation etc.). The sanctuary management training will provide the skills to tackle these key matters in the coming years. Both the UK and

Kenyan Darwin Fellows will also be teaching key course modules. The new Director of KWS (Evans Mukolwe) is particularly delighted that such a scientific capacity building programme is being implemented.

The changing of the 5-day computer and data-management training workshop into an extensive on-site training programme has worked out very well. A Kenyan graduate has been trained as an instructor. Subsequently, a 3-week intensive training in each national park has been conducted. This training has been highly effective.

No major difficulties have been encountered during the year. The uptake of the training by the field staff has been most encouraging. As the training continues further improvements will be made.

The project has also appointed two Kenyans for field support work as replacement for the rhino scientist who is currently undertaking a 1-year MSc. Both have been working in the KWS rhino programme office as volunteers over the last two years. They have successfully been trained as Rhino instructors. They have initially been funded for one year. D' Amneville Zoo is providing funds for one of them.

The staff morale has significantly improved following the initiation of the capacity building programme. ToRs have been drawn up by the Rhino coordinator for all relevant project staff.

The timetable (workplan) for the next reporting period (period-3: Apr-Sep 04) is as follows.

- 1 UK-based MSc field project (May – Sept 04).
- Development of rhino annual national and park status reporting templates (tailor made for Kenyan needs) (May 04).
- Training of 2 KWS rhino scientists in producing population estimates using RHINO Bayesian Mark Recapture software (May 04).
- 1 field ranger BSc undergraduate course in Wildlife Management at Moi university (Starting Sep 04).
- 12 field officers/rangers continue certificate course in Sanctuary Wildlife Management at KWS Training Institute (Apr – Sep 04).
- Field assessment report submitted to the Kenyan RMC & RTC following 6 monthly assessment of training, data quality, entry and reporting procedures, and any on-site training by rhino scientist and Darwin Fellow(s) (Sep 04).
- 1 local-based MSc field project (Starting Sep/Oct 04).
- ECC fieldwork and initial development of the Kenyan black rhino ecological carrying capacity model, preliminary estimates for 11 parks (completion Sep 04).
- Training of rhino scientist in detailed population data analysis and preparation of annual status reports (completion Sep 04).
- First annual park status reports by rhino scientist with supervision from Darwin Fellows (Completion Sep/Oct 04).
- First annual national status report by rhino coordinator (includes training) and rhino scientist with supervision from Darwin Fellows (Completion Sep/Oct 04).
- Review of first annual status reports at a sitting of the Kenyan Rhino Management and Rhino Technical Committees (RMC, RTC) (Sep/Oct 04).
- UK-based MSc project thesis (submission Sep 04).



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

***Not Applicable***

## **6. Partnerships**

The project partners (Zoological Society of London, Kenya Wildlife Service and the IUCN SSC AfRSG) have worked very closely together in the implementation of this project. Three of the project members (M Mulama – KWS; Dr R Emslie – AfRSG; Dr R Amin - ZSL) also played a significant role in the development the 5-year conservation strategy upon which this project is based.

Support has been fully provided by KWS and the private sanctuaries. This has included extensive use of the Rhino Programme vehicle, park accommodation at staff rates or less, availability of all relevant staff and equipment and logistic support.

The ZSL Director of Conservation Programmes (Dr Glyn Davis) has recently travelled to Kenya to review progress in the field and discuss its impact with the KWS Director (Evans Mukolwe) and Chairman (Colin Church).

The project has successfully managed to build close links with several international organisations and leveraged the following additional funds for rhino.

- 1) Save the Rhino International: for living costs on the UK for MSc student.
- 2) Africa Wildlife foundation: for additional MSc costs (including laptop etc).
- 3) US Fish and Wildlife for MSc project field costs.
- 4) D' Amneville Zoo euros) for rhino field conservation support. This includes funds for one Kenyan for project field support work for 1 year.
- 5) Zoological Society of London for the repair of field monitoring vehicle at Ngulia rhino sanctuary.
- 6) Zoological Society of London per annum) for water system maintenance at Ngulia rhino sanctuary.
- 7) USAID: (1 million Kenya Shillings) for training of field officers in Sanctuary Wildlife Management (certificate course).

## **7. Impact and Sustainability**

Kenya Wildlife Service is responsible for the conservation and management of wildlife in Kenya. It is charged with the implementation of the Wildlife Policy (1975) and the Wildlife Act (revised in 1989). KWS's mission statement is *"To work with others to sustainably conserve, protect and manage Kenya's invaluable biodiversity for the benefit of the people and as a world heritage"*. The rhino conservation programme is one of KWS's Flagship biodiversity programmes and a key contributor to both KWS's vision and mission. This Darwin project's activities have been developed in conjunction with the Kenyan (KWS) rhino programme coordinator who heads the rhino programme (and his support scientist). They address key priorities that were identified in the revised Kenyan Black Rhino Strategy (2001) and therefore seen as a key project within Kenya Wildlife Service.

There is extensive awareness of the project within the whole of the KWS organisation. The KWS Director and park wardens/assistant directors have provided their full support to the project. Majority of these areas are designated rhino sanctuaries and therefore improved monitoring, status reporting, habitat assessment and management through adjustment of rhino and other browser population densities is seen to be vital for the conservation of many other species as well. Many of the skills and conservation approaches taught/enhanced during this project can be applied to benefit the conservation of other species.

ZSL has developed a project website (please see supplementary item Ref: 162/12/004-S12). The Darwin logos have extensively been used in 1) course notes, presentations, and accreditation tests developed by the project; 2) Rhino Information Management system and user manual, 3) computer, MS Word, Excel and data processing training notes, 4) Rhino monitoring protocol manual, 5) Sighting forms, 6) Education and scientific posters, 7) Project leaflet. Please see the supplementary items.

Darwin certificates have been presented to all staff who have successfully completed the rhino monitoring course.

The 2004 IUCN AfRSG meeting is being hosted by Kenya (June 6<sup>th</sup> – 12<sup>th</sup>). Two presentations on the project will be given to the international audience. A site visit to Ngulia rhino sanctuary has been also planned to show the on-going rhino monitoring and management work.

In addition, 3 formal presentations have been undertaken by Darwin fellows in the UK. These include 1) ZSL Scientific Meeting, 2) Catalysts for Conservation Symposium 3) Presentation to large London based lawyer firm as part of ZSL's conservation awareness programme. A presentation will also be made at the Angers international forum (France), July 04.

A satisfactory exit strategy has been put in place. The Darwin project has institutionalised an appropriate training approach that encourages its on-going implementation. By training, mentoring and accrediting multiple trainers to teach rhino monitoring techniques using the AfRSG modular course, training is now being done by local Kenyan staff on an on-going basis back on their own reserves without the need to take staff off duty or station, and is dependent upon the need for significant additional future outside input and funding. The process of testing and accrediting both trainers and trainees has helped institutionalise the process and provide recognition to those accredited, making it more likely training will continue into the future. By providing active skills development, support and mentoring, the project is building confidence in rhino programme staff to run the rhino and habitat monitoring, training and status reporting activities after project completion. The capacity building programme has helped to stimulate and encourage park staff and provided added motivation to the Kenyan rhino programme. The project will also leave behind a number of support tools such as the enhanced Kenyan Rhino Information Management System and GIS, RHINO 2.0 software, habitat assessment procedural manual, and a carrying capacity estimation model. Local staff will have been trained and mentored in their use and should have the ability and confidence to continue to use these tools after the project formally ends. Three of the Darwin Fellows (R Amin, K Adcock & R Emslie) have long-term commitments to African rhino conservation, and therefore formal and informal contact with KWS will be maintained beyond the lifetime of this Darwin Initiative project. Further, should rhino programme staff have any queries or problems once the project has officially ended, the Darwin Fellows on the project team will provide any feasible assistance via e-mail or over the telephone.

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

***Not Applicable***

#### **9. Outputs, Outcomes and Dissemination**

The project has managed to deliver the outputs agreed in the 'Project Implementation Timetable' and the 'Project Outputs Schedule'. Several of these outputs are based on an on-going training programme. This includes 1) the training of field rangers in rhino monitoring where the trained rangers will be tested during the next field monitoring phase by Darwin Fellows and 2) the training of field officers in basic computer skills, standard software packages and reporting. The information

system is currently being implemented in the Masai Mara G.R. This delay has been due to the breakdown of the field computer.

The following additional outputs were achieved

1. 8 extra field officers/rangers attending certificate course in Sanctuary Wildlife Management. (12 instead of 4 students).
2. UK based MSc instead of a local based MSc to build managerial capacity.
3. Intensive 3-week on-site training with follow-up support in data quality control, use of computers, MS Word, Excel. (instead of a 5-day workshop). A suitably qualified KWS staff member trained as an instructor.
4. Revised rhino sighting booklet.
5. Rhino monitoring and management protocol document – currently implemented in the reserves/parks.
6. Standardised sanctuary monthly reporting template - currently implemented in all the KWS reserves/parks.
7. Paper Grid Maps for Patrols: completed for areas requiring maps: Nairobi N.P., Lake Nakuru N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Masai Mara G.R.
8. Educational posters: Two rhino and project information posters currently being produced and to be initially placed in Lake Nakuru N.P.

Project dissemination activities have been initiated in Kenya. The project details have been placed on the KWS website. Information posters are being developed which will be placed within the reserves/parks. A project leaflet has been produced and will be made available to KWS stakeholders, donors and visitors. Newspaper articles, radio broadcasts and presentations are being planned. The KWS rhino programme is one of Kenya's flagship conservation programmes and the project addresses the key priorities of the programme's 5-year management strategy. The project's legacy will therefore continue well beyond the project's lifetime.

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

<b>Code No.</b>	<b>Quantity</b>	<b>Description</b>
7	2	Formal theoretical examinations and practical tests for accreditation of rhino monitoring instructors/trainers and field rangers
6A	18	18 trained instructors (rhino officers) in rhino monitoring (6-day training workshop + regular on-site training and support as required). 26 officers attended the course. 5 of the 8 officers who narrowly failed the exams and practical tests will be re-tested in 2004.
7	1	Training guidance notes: training of field officers in data quality control, basic data processing and reporting using the Rhino Information Management System and standard software packages (Microsoft Word, Excel).
3	12	12 rhino officers/rangers currently undertaking training in Sanctuary Wildlife Management (6-month certificate course)
6A 6B	20 1	20 trained staff undertaking rhino monitoring, data quality control, basic data processing & reporting using the Rhino Information Management System and standard software packages (Microsoft Word, Excel); 1) First phase: implementation and training by Darwin Fellows – one week training per reserve/park; 2) Second phase: 3 week on-hands training per park; 3) Follow up support visits with examinations.
6A, 6B	165, 8	Approximately 165 trained rangers in rhino monitoring (initial intensive on-site training by local instructors with support and monitoring from Darwin Fellows followed by on-going training by local instructors with on-site support where needed).
12B 7	1 1	Fully operational Rhino Information Management System + GIS with user manual and tutorials in 8 rhino parks and KWS headquarters.
2	2	2 rhino scientists currently undertaking training in Wildlife Management (MSc course)

**Table 2: Publications**

Type *	Detail	Publishers	Available from	Cost £
(e.g. journals, manual, CDs)	(title, author, year)	(name, city)	(e.g. contact address, website)	
Posters	Rhino monitoring training posters, AfRSG, 2003	AfRSG		Printing & postage costs
Manual	Rhino monitoring instructors training manual, AfRSG, 2003	AfRSG		Printing & postage costs
Booklet	Rangers rhino monitoring booklet in English and Swahili, AfRSG, 2003	AfRSG		Printing & postage costs
Booklet	Rhino sighting form booklet, KWS, 2003	KWS		Postage costs
Pocket Cards	Field pocket rhino monitoring cards, AfRSG, 2003	AfRSG		Printing & postage costs
Database*	Kenya Black Rhino Management System, KWS/ZSL, 2003	KWS/ZSL		Postage costs
Manual*	Kenya Black Rhino Management System user manual, KWS/ZSL, 2003	ZSL/KWS		Printing & postage costs
Sheets*	Black Rhino IDENTIKIT, KWS, 2003	KWS		Postage costs
Manual	Rhino monitoring and management protocol document, KWS/ZSL, 2003	ZSL/KWS		Printing & postage costs
Paper and Electronic Maps*	Paper grid and electronic Arcview maps: Nairobi N.P., Lake Nakuru N.P., Ngulia R.S. (Tsavo West N.P.), Lewa Downs P.S., Aberdare N.P., Sweetwaters G.R., KWS/ZSL, 2003	KWS/ZSL		Printing & postage costs
Posters	Educational rhino poster, KWS/ZSL/D'Amneville, 2003	KWS/ZSL D'Amneville		
Manual*	Training material: MS Word, MS Excel, computer basics, Windows 98/2000 OS, KWS/ZSL, 2003	KWS/ZSL		
Leaflet*	Project Leaflet, ZSL, 2004	ZSL		-

\* available electronically

## 10. Project Expenditure

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

Item	Budget (please indicate which document you refer to if other than your project schedule)	Expenditure	Balance
Rent, rates, heating, overheads etc			
Office costs (e.g. postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others			
Salaries (specify)			
<b>TOTAL</b>			

## 11. Monitoring, Evaluation and Lessons

The project monitoring and evaluation is being done via 1) the use of in-built, outcomes-based skills accreditation tests within training courses; 2) field visits by Darwin Fellow(s) and KWS support staff to evaluate progress and provide on-site training and support; 3) quality checks on monthly monitoring reports submitted by field staff; and 4) supervisory or advisory input into field monitoring, data analysis and reporting.

This project's purpose is to build local capacity to ensure that Kenya Wildlife Service has the human resources and information systems necessary to 1) achieve the targets for black rhino conservation mandated in its Kenya 5-year Black Rhino Strategy; and 2) meet CBD objectives. The following agreed project outputs (with indicators and monitoring & evaluation) have been achieved which contribute towards the project purpose.

**Output 1:** A body of trained and accredited instructors for the AfRSG rhino monitoring course who are capable of continuing in-country training of field rangers.

**Measurable Indicators:** Minimum of 20 rhino officers from 11 parks trained and tested. Those that pass accredited.

**Monitoring and evaluation:** 26 officers from 13 reserves/parks were trained and tested as Darwin instructors in rhino monitoring. The officers from Meru national

park (where there is a plan to re-establish black rhinos) and l'Ingwesi Group Ranch where a very few rhinos have recently been translocated also attended the six day workshop. 18 officers were accredited through a series of formal exams and practical tests (please see report in supplementary item Ref: 162/12/004-S2 and S3). Five of the eight officers who narrowly failed the exams will be re-tested in 2004.

**Output 2:** A body of trained and accredited rhino monitoring field rangers.

**Measurable Indicators:** Minimum of 165 field rangers from 11 parks trained and tested. Those that pass accredited.

**Monitoring and evaluation:** Intensive training of field rangers by the locally trained instructors (supported by Darwin fellows) has been completed and training and testing is now being undertaken on an on-going basis. Progress in being checked through monthly reports and on-site visits. Accreditation through formal exams will be undertaken during the six-monthly field assessment (next phase of the work).

**Output 3:** 2 MSc studentships in Wildlife Management

**Measurable Indicators:** Students enrolled at university, examination and projects reports.

**Monitoring and evaluation:** 2 rhino officers are currently undertaking MSc studies. The Darwin fellows have kept close contact with the students and progress has been monitored through assignment reports which has been very good. The field project for the UK-based MSc, starting May 04, is based on the study of population dynamics, estimation and status reporting and a project schedule has been drawn up. The local based MSc is a 2-year course with a 1-year field project starting in Oct 04. The project successfully obtained extra funds to allow one of the MSc studies to be undertaken at DICE, University of Canterbury. This course is very well suited to building capacity at a key managerial level.

**Output 4:** 4 Certificate studentships in Sanctuary Wildlife Management.

**Measurable Indicators:** Students enrolled at college, examination and projects reports.

**Monitoring and evaluation:** Twelve highly promising field officers/rangers have commenced certificate course in Sanctuary Wildlife Management. Additional funds were obtained from USAID and reduction in accommodation costs were negotiated with the KWS Training Institute to enable 2 officers from each of the 6 national reserves to attend. This course started in April 04.

**Output 5:** Fully revised Rhino Information Management System + GIS, user manual, tutorials & training

**Measurable Indicators:** Fully working system in 11 parks.

**Monitoring and evaluation:** The Kenyan rhino information management system with user manual has been developed and successfully implemented/operational in 8 reserves/parks. Selected officers have been trained in its use and formally tested. The system is currently being implemented in the Masaai Mara G.R. and staff being trained in its use. This delay has been due to the breakdown of the field computer (see Section 4 for further details). Chulu Hills N.P. and Laikepia Private Sanctuary do not have field computers and procedures are being put in place to record monitoring data on a monthly basis at the Rhino Programme Office.

Field data is now being entered on a regular basis (in most cases daily) in all parks except Masai Mara and some parks are already doing basic data analysis. Data entry and analysis is being monitored through the monthly reports generated by the system and on-site visits.

**Output 6:** Rhino officers trained in rhino monitoring data quality control, entry, basic processing & reporting.

**Measurable Indicators:** Minimum of 20 rhino officers from 11 parks trained and tested. Those that pass accredited.

**Monitoring and evaluation:** The rhino sighting data quality control process has been initiated in all the areas and is being fairly effectively run in most of the sanctuaries Nairobi N.P., Tsavo East N.P., Tsavo West N.P. (Ngulia R.S.), Aberdare N.P., Lewa Downs P.S., Ol Jogi G.R., Sweetwater G.R., ). Further support is being provided to Masai Mara and Lake Nakuru National Park and the other areas. This process is being closely monitored through monthly reports, sighting and patrol forms and records completed and verified.

**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.



Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2003/2004

Project summary	Measurable Indicators	Progress and Achievements April 2003-Mar 2004	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>To build local capacity to ensure that Kenya Wildlife Service has the human resources and information systems necessary to 1) achieve the targets for black rhino conservation mandated in it's Kenya 5-year Black Rhino Strategy; and 2) meet CBD objectives.</p>	<p>Improved information on rhino population sizes and dynamics, and rhino habitat carrying capacities and conditions, to be used for effective management and implementation of the Kenyan 5 year Black Rhino Strategy.</p>	<p>Annual national and park rhino status reports, -providing indicators of population performances, and recommendations for rhino meta-population and habitat management across 11 Kenyan parks.</p> <p>Regular reviews &amp; feedback reports from Kenyan Rhino Management and Technical Committees (RMC &amp; RTC) and the IUCN AfrSG.</p>	<p>High level support within the Kenya Wildlife Service for the aims of the Kenya rhino management strategy.</p> <p>Adequate KWS funds and staffing to protect and manage rhino areas.</p> <p>Continuing successful grants to implement annually reviewed conservation strategies.</p>
<p><b>Outputs</b></p> <p>a) A comprehensive, quality controlled system for monitoring of black rhino and their habitats in Kenya.</p>	<p>Consensus among stakeholders (including KWS and international conservation NGOs) on the utility of the approach.</p>	<p>Reports on meetings with stakeholders, annual reports, and project final report.</p>	<p>Retention of staff with specialised training skills and experience, and high staff motivation.</p>

<p>b) A body of trained and accredited instructors for the AfRSG rhino monitoring course who are capable of continuing in-country training of field rangers.</p>	<p>Minimum of 20 rhino officers from 11 parks trained and tested. Those that pass accredited.</p>	<p>Numbers of staff trained and levels of achievement attained summarised in training assessment reports.</p>	<p>A high % of participants pass assessments and continue present positions.</p>
<p>c) A body of trained and accredited rhino monitoring field rangers.</p>	<p>Minimum of 165 field rangers from 11 parks trained and tested. Those that pass accredited</p>	<p>Monthly field monitoring reports; 6 monthly assessment reports summarising number of staff trained &amp; accredited and levels of achievement attained.</p>	<p>Highly trained and motivated instructors. Well motivated field rangers. High levels of staff retention.</p>
<p>d) Rhino officers trained in rhino monitoring data quality control, entry, basic processing &amp; reporting.</p>	<p>Minimum of 20 rhino officers from 11 parks trained and tested. Those that pass accredited</p>	<p>Monthly reports; 6 monthly on-site assessments.</p>	<p>Highly motivated staff and high levels of retention.</p>
<p>e) [ij] Rhino programme coordinator, and scientist, trained in detailed field data analysis, interpretation of population dynamics and effective status reporting for decision-making.</p>	<p>Rhino programme coordinator and support scientist from KWS headquarters trained.</p>	<p>Numbers of staff trained. Quality of annual status reports.</p>	<p>Well-motivated staff and high levels of staff retention.</p>
<p>e) [ij] Rhino officers / researchers from parks trained to produce basic annual park reports for KWS headquarter staff to use in national status reporting</p>	<p>At least 11 rhino officer/researchers trained (1 from each population)</p>	<p>Numbers of staff trained. Quality of annual park reports/data submitted to KWS headquarters staff.</p>	<p>Well-motivated staff and high levels of staff retention.</p>

<p>f) Three sets of park and national annual status reports.</p> <p>g) Fully revised Rhino Information Management System + GIS, user manual, tutorials &amp; training (see d).</p> <p>h) A black rhino ecological carrying capacity model with procedures and training for habitat assessments, habitat monitoring and updating the model.</p>	<p>Reports published and reviewed by the RMC &amp; RTC.</p> <p>Fully working system in 11 parks.</p> <p>Data established on various variables / determinants of rhino ecological carrying capacities for each park, model developed, carrying capacities estimated, monitoring system established.</p>	<p>Management actions. Reviews and feedback reports from the RMC &amp; RTC.</p> <p>Rhino monitoring data in system database, monthly park reports.</p> <p>Improved ecological carrying capacity estimates for each park. Number of park researchers/ecologists trained. Habitat monitoring reports and procedural manual.</p>	<p>Sufficient quality data from the field.</p> <p>High level of support for equipment maintenance and repairs.</p> <p>Past &amp; current environmental data available (e.g. average monthly rainfall, soils/geology). Highly motivated staff.</p>
<p>i) Rhino scientists trained in the use of Rhino 2.0 Bayesian Mark Recapture Population Estimation tool.</p> <p>j) 2 MSc, 1 BSc and 4 Certificate studentships, and 1 BSc projects completed</p> <p>k) Publications and publicity.</p>	<p>RHINO population estimation tool used in parks with unidentifiable rhino. At least two scientists trained.</p> <p>Students enrolled at university/college, examination and projects reports.</p> <p>Rhino conservation education booklet (1000 copies distributed to schools), 4 peer-reviewed papers, 2 radio broadcasts.</p>	<p>Improved rhino population estimates for such parks.</p> <p>BSc, MSc reports and certificates.</p> <p>2 copies of all publications sent to Darwin Initiative</p>	<p>Correct monitoring of recognisable &amp; unrecognisable rhino, highly motivated staff continues in present position.</p> <p>Courses passed by University / College. BSc student available to undertake field project.</p> <p>Outlets for publications and publicity willing to participate.</p>