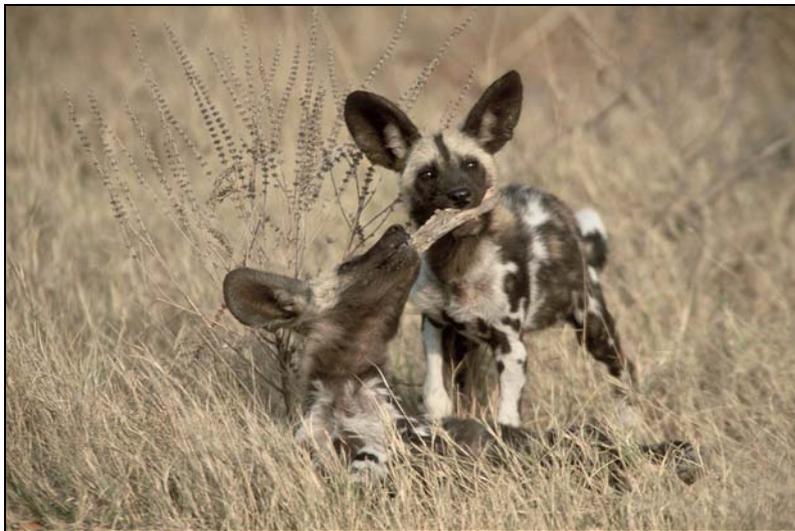




**Painted Hunting Dog Conservation
Through Education & Development
Darwin Initiative for the Survival of Species**

Final Report



S I R E N



1. Darwin Project Information

Project Reference No.	
Project title	Painted Hunting Dog Conservation Through Education & Development
Country	Zimbabwe
UK Contractor	Tusk Trust, and Siren Conservation Education
Partner Organisation (s)	Painted Hunting Dog Research
Darwin Grant Value	£85,745
Start/End date	September 2002 to September 2004
Project website	www.siren.org.uk ; www.tusk.org ;
Author(s), date	Dr Sasha Norris, January 2005

2. Project Background/Rationale

African Painted Hunting Dogs are highly endangered and under intense anthropogenic pressure throughout Africa. Zimbabwe has one of the largest surviving populations (around 700 individuals). The marked decline of Painted Hunting Dogs has been exacerbated in places by increasing poverty of local communities. Increased rates of snaring (a response to the drive for bushmeat) present a significant threat to wildlife. In 2000, 80% of adult dog mortality in the Dete area was snare-related, only 2% of which is targeted at the dogs. The Painted Dog Research Project has been operating in Zimbabwe for more than 13 years. Its main goal is to conserve and increase the ranges and number of Painted dogs in and around Hwange National Park in Zimbabwe through activities such as anti-poaching, pack translocations and modest community awareness. Recent marked increases in snare-related adult dog mortality has prompted the Painted Hunting Dog Research Project (PHDR), to broaden the scope of its activities. Consultation with PHDR about the poaching problem has highlighted limited environmental awareness across all sectors of local communities and a lack of economic opportunities. The creation of a "Community Conservation Education & Development Programme" (CCEDP) within PHDR was identified by all organisations involved, as a critical step towards tackling the snaring problem. Tusk Trust and Siren have taken responsibility to devise and implement this major component of PHDR's expansion in the Dete area of Zimbabwe.



Figures 1-3 Zimbabwe is a country rich in biodiversity but poor in resources

3. Project Summary

Table A Logical framework as originally submitted

<u>Project summary</u>	<u>Measurable indicators</u>	<u>Means of verification</u>	<u>Important assumptions</u>
<p><u>Goal</u></p> <p><i>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</i></p>		<ol style="list-style-type: none"> 1. Up-take of primary school educational materials and requests for input of PHDR CCEDP educators, notably in Matabeleland North 2. Monitoring of wild mammal population trends 3. Changes in balance of local level economic activities 	<ol style="list-style-type: none"> 1. Changed attitudes of local communities 2. Interest of schools in promoting wildlife elements of the Environmental Science curriculum 3. Suitable political climate
<p><u>Purpose</u></p> <ol style="list-style-type: none"> 1. Understanding among locals of the relevance of biodiversity to livelihoods 2. Move to local scale, sustainable income generating activities 3. Reduced snare-related wild mammal, including hunting dog, mortality 4. Use of education and development-based approach to conservation. 	<ol style="list-style-type: none"> 1. Change in attitudes towards biodiversity in general and hunting dogs in particular 2. Number of new income generating projects initiated 3. Occurrence of snares and snare rates 4. Up-take of elements of CCEDP by environmental and community-based NGOs 	<ol style="list-style-type: none"> 1. Questionnaire to local community members (and others) during each workshop and at the education centre 2. Report on appraisal of the CCEDP 3. Snare records 4. Consultation with project collaborators and other relevant NGOs of usefulness of CCEDP to their activities 	<ol style="list-style-type: none"> 1. Local communities receptive to education and awareness messages 2. Continued local support of PHDR project 3. Success in leveraging further funds into PHDR in support of the CCEDP 4. Trained educators remain with PHDR CCEDP
<p><u>Outputs</u></p> <ol style="list-style-type: none"> 1. Rural appraisal in Dete 2. Educator training 3. Education programme, with awareness, curriculum and teachers materials 4. Analysis of sustainable income generation options 5. Economic development programme 6. Equiped education centre 7. Dog story book 8. Dissemination and publicity workshop 9. Peer reviewed paper 	<ol style="list-style-type: none"> 1. Report local perspectives of conservation and economic development 2. Educators effectively delivering programme 3. Participatory workshop on economic opportunities 4. Development team implementing programme 5. Computer functional, displays in place 6. Story book distribution 7. Final workshop: number and status of participants 8. Co-authored paper written 	<ol style="list-style-type: none"> 1. Report on rural appraisals 2. Document on education programme plus materials 3. Educator trainer reports on 'trainee' activities 4. Report on sustainable income generation workshop 5. Report on up-take of new income generation projects 6. PHDR report on centre 7. Peer review of dog story book and distribution figures 8. Report of final workshop 9. Acknowledgement of receipt of MS from journal 	<ol style="list-style-type: none"> 1. Local communities receptive to education and awareness messages, and to novel income generating possibilities 2. Trained educators remain in post 3. Economic opportunities are not limited by supply or market constraints 4. Experience with two local communities is generalisable

<u>Activities</u>			
1. Rural appraisals 2. Training of educators 3. Development of awareness process/materials 4. Development of curriculum and teacher support materials 5. Income generation workshop 6. Development of education centre materials 7. Implementing education/ development programme 8. Fitting out of centre 9. Dissemination	1. Staff salaries £34150 2. Rents £14290 3. Office costs £1525 4. Travel £8220 5. Printing £850 6. Workshops £1650 7. Capital £11980 8. Other costs £13080 Total spend £85745 <u>Other key inputs</u> 1. Two educators (PHDR) 2. Monitoring costs (Tusk) 3. Implementing staff (Siren)	1. Review of quarterly reports to monitoring sub-group of Tusk Trust 2. Annual field monitoring visits of Tusk Trust personnel 3. Progress/outcome reports on each activity	1. Expert PRA facilitators available when needed 2. Suitable trainee educators are available 3. Local communities are receptive to education and development initiatives 4. Building of education centre is not delayed beyond the end of the project 5. Key participants of the workshops are available 6. NGO collaborators (not project partners) provide input as needed

Reported outputs against original logical framework for final report of Painted Dog Conservation project

<u>Project summary</u>	<u>Measurable indicators</u>	<u>Means of verification</u>	<u>Important assumptions</u>
<u>Goal</u> <i>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</i>	/	1. Up-take of primary school educational materials and requests for input of PHDR CCEDP educators, notably in Matabeleland North- more schools request involvement than we can currently reach. 2. Monitoring of wild mammal population trend - ongoing. 3. Changes in balance of local level economic activities – people are shifting onto wildlife friendly incomes	1. Changed attitudes of local communities 2. Interest of schools in promoting wildlife elements of the Environmental Science curriculum 3. Suitable political climate
<u>Purpose</u> 1. Understanding among locals of the relevance of biodiversity to livelihoods 2. Move to local scale, sustainable income generating activities 3. Reduced snare-related wild mammal, including hunting dog, mortality 4. Use of education and development-based approach to conservation.	1. Change in attitudes towards biodiversity in general and hunting dogs in particular 2. Number of new income generating projects initiated 3. Occurrence of snares and snare rates - Snaring is down to 30% of pre-project levels. 4. Up-take of elements of CCEDP by environmental and community-based NGOs	1. Questionnaires have been provided during all workshops and ongoing to bushcamp attendees. 2. Report on Rural Appraisal of CCEDP completed 3. Snare records completed 4. Constant consultation with collaborators and other organisations has been done. The project was particularly valued by peer groups given political climate.	1. Local communities receptive. 2. Continued local support of PHDR project has increased as project reaches more people and employees increase 3. Success in leveraging further funds into PHDR in support CCEDP - in excess £150,000 raised. 4. Trained educators remain in post

<p style="text-align: center;"><u>Outputs</u></p> <ol style="list-style-type: none"> 1. Rural appraisal in Dete - completed 2. Educator training completed 3. Education programme, with awareness, curriculum and teachers materials completed 4. Analysis of sustainable income generation options - completed 5. Economic development programme - underway 6. Equiped education centre - see notes above - housed temporarily in bushcamp classroom 7. Dog story book - text completed, full colour illustrations by top Zimbabwean artist underway 8. Dissemination and publicity workshop 9. Peer reviewed paper 	<ol style="list-style-type: none"> 1. Report local perspectives of conservation and economic development 2. Educators effectively delivering programme - yes 3. Participatory workshop on economic opportunities- undertaken 4. Development team implementing programme - underway 5. Computer functional, displays in place - awaiting completion of building. 6. Story book distribution - 35,000 copies of booklet - storybook still in production due to enhancement of production 7. Final workshop: number and status of participants 8. Co-authored paper written 	<ol style="list-style-type: none"> 1. Report on rural appraisals 2. Document on education programme plus materials 3. Educator trainer reports on 'trainee' activities 4. Report on sustainable income generation workshop 5. Report on up-take of new income generation projects - completed. 6. PHDR report on centre - 7. Peer review of dog story book and distribution figures - not completed - see notes above 8. Report of final workshop 9. Acknowledgement of receipt of MS from journal 	<ol style="list-style-type: none"> 1. Local communities receptive to education and awareness messages, and to novel income generating possibilities 2. Trained educators remain in post - eys 3. Economic opportunities are not limited by supply or market constraints - some constraints as discussed below due to politics and economic fluctuations - we are working to solve these. 4. Experience with two local communities is generalisable
<p style="text-align: center;"><u>Activities</u></p> <ol style="list-style-type: none"> 1. Rural appraisals 2. Training of educators 3. Development of awareness process/materials 4. Development of curriculum and teacher support materials 5. Income generation workshop 6. Development of education centre materials 7. Implementing education/ development programme 8. Fitting out of centre 9. Dissemination workshop 10. Preparation of paper 	<p>Total spend £85745</p> <p><u>Other key inputs</u></p> <ol style="list-style-type: none"> 1. Two educators (PHDR) 2. Monitoring costs (Tusk) 3. Implementing staff (Siren) 	<ol style="list-style-type: none"> 1. Review of quarterly reports to monitoring sub-group of Tusk Trust 2. Annual field monitoring visits of Tusk Trust personnel 3. Progress/outcome reports on each activity 	<ol style="list-style-type: none"> 1. Expert PRA facilitators available when needed 2. Suitable trainee educators are available 3. Local communities are receptive to education and development initiatives 4. Building of education centre is not delayed beyond the end of the project 5. Key participants of the workshops are available 6. NGO collaborators (not project partners) provide input as needed

The project aimed to:

- research social, economic, and environmental perspectives of importance to individuals in the communities that are local to dog populations (Dete and Bubiana as well as surrounding dog dispersal areas)
- establish a community education and development programme that will raise awareness among local communities of the significance of biodiversity, and in particular hunting dogs, to their everyday lives
- facilitate sustainable economic development within communities local to viable dog populations that is compatible with biodiversity conservation

No changes have been made to the objectives set out above, but significant amendments to the operational time plan were forced upon the project due to the drastic decline in the socio / economic situation in Zimbabwe. In addition, Greg Rasmussen, one of the project co-leaders, had a very serious flying accident in August of last year. Greg crashed in a light aircraft while tracking rhino near Victoria Falls and sustained very serious injuries including 11 broken bones. He is currently recovering in the UK. In his absence his very able deputy, Peter Blinston, has undertaken the project management, building work and finances in Zimbabwe. Nonetheless, the project was completed. The rest of the team consisted of Bruce Lombardo heading up the education and community development programme, teacher Wilton Nsimango, and volunteer Wendy Blakeley who coordinates the community crafts project and Sasha Norris as the UK project co-leader, who has coordinated the production of interpretation materials and ensured overall smooth running of the project outputs.

The proposed work has assisted the Government of Zimbabwe in meeting obligations under the Convention on Biological Diversity by development and delivery of community conservation awareness and primary school education programmes. The project was designed to understand the development needs and expectations of local communities, and assisted those communities to identify and develop more sustainable livelihoods. In this way the project directly contributed to the alleviation of poverty of specified local communities. The project utilised experience gained to provide a 'model' for conservation with development for similar communities in Zimbabwe.

At completion almost all outputs have been achieved with the following exceptions:

- The education centre is still in the process of being equipped. Consultation with the Darwin Secretariat determined that we should temporarily house the interpretation materials in the children's bush camp until the visitor centre is complete. The physical building of the Education Centre was not part of the Darwin project, therefore it was considered by the Secretariat that we had completed the project within the time frame. However, fund raising for £35,000 to cover costs of the building was a project output. In excess of £70,000, double the target output, has so far been raised.
- The storybook is being illustrated. The decision was taken to use a Zimbabwean artist for the illustrations. Identifying this artist took longer than we had anticipated. Zimbabwean artist Tomy Ndebele (National Art Gallery, Bulawayo) is undertaking the illustrations. Furthermore as discussed below the storybook is being reviewed in schools (Appendix 10). This is an additional review procedure to the peer review we committed to the Darwin Secretariat but one which we think is necessary given the strong cultural heritage of this area. As soon as the storybook, which will be in full colour, large format, eco-printed, is completed we will submit copies to the Darwin Office, anticipated April 2005. In addition to distribution within Zimbabwe, free of

charge, we hope to sell this book in the UK to raise funds for the project. The following table summaries major additional outputs.

MAJOR ADDITIONAL OUTPUTS
1. Exclosure for safe field lessons for children
2. Children's bush camp where children come to stay at the project for a three day field studies course
3. Rehabilitation centre for injured painted dogs which forms part of the education centre in a 'meet the dogs' exercise.
4. Community art project in Bulawayo National Art Gallery, in which local artists develop wildlife observation and painting skills and sell their products to the project shop
5. State of the art, world class museum planned for interpretation centre displays including resin full size pack of dogs at entrance, wall of skulls to symbolise dog snare deaths
6. Sales of dog wire art in UK, including Sotheby's auction
7. Additional year's employment for education manager
8. Additional funds raised in excess of of £150,000
9. 35,000 copies of a booklet for children have been disseminated.
10. Storybook enhanced to triple budget funded by Siren, and Zimbabwean artist employed to illustrate.
11. External scientific consultant taken on to advise project long term
12. MSc project undertaken to assess efficacy and appropriateness of education programmes
13. Additional training workshops: Interpretive Walks Training Workshop and Headmasters Orientation Day at Iganyana Bush Camp

4. Scientific, Training, and Technical Assessment

Research

Two PRA's one local, one UK, were planned and undertaken by the project. A third was proposed, but after undergoing the recruitment process, it was decided the cost-benefits did not add up (details below). Instead, series of scientifically designed questionnaires and an MSc research project are being undertaken to assess the ongoing quality of the educational work.

Summary of local PRA undertaken by Dr. Felix Murindigomo

The Project's position in the community is considered to be very positive not only in terms of an income generator and education provider but also as a body that will bring much needed and highly desired international publicity to the area. The construction of the Community Conservation Education Centre is central to this, providing employment opportunity in the immediate and long term. The programme of activities highlighted below represents further income generating opportunities for the impoverished community. The local community regard the educational component of the programme (highlighted below) as the main attraction of the project. It was clear from the Rural Appraisal that a lack of educational opportunities was considered the biggest factor limiting individual development in the region.

A series of presentations (video and power-point) were given by PHDR staff at five key locations in Dete and the surrounding communal land areas, thus allowing for access by as many people as possible. The focus being to present the project's aims and

objectives, emphasizing the role of the local communities in all of this. Significant awareness of the plight of the focus species was raised, relating this directly to the importance of maintaining biodiversity. The concerns voiced by the local communities relating to the species, such as livestock predation and a perceived danger to humans were also addressed at length. Chief Nelukoba, (Chief of the 30,000 people in the area of the project) played a crucial role in starting to alleviate any fears that were raised. On a positive note however there was great interest and hope for the educational components of the project. The meeting highlighted the justified feeling of the rural community that at the moment, realistic education is a luxury of either the rich or those that lived near to major cities. People were excited about the prospect of education on their doorstep, but sceptical as to whether it might be accessible only to those either with skills already or those with influence from outside the area. The workshops and presentations helped to clarify that the beneficiaries of the CCEC would be local people resident within the region under the jurisdiction of Chief Nelukoba. The Zimbabwe PRA is included as appendix 1.

Summary of PRA undertaken by Dr Paul Maiteny

The UK PRA aimed to provide an overview of how the project as a whole is being received by local stakeholders. Special attention was given to cultural dimensions of developing learning, education and interpretation, and ideas about generating alternative, sustainable sources of livelihood (not only economic, but more broadly defined, to include non-material wealth).

The PRA was a qualitative assessment of attitudes of people living in the Dete region towards the dog conservation project, conservation in general and their own economic situation. In depth interviews with a range of local people were conducted. The interviews suggested that the attitudes of local people to conservation were contradictory; being on the one hand spiritual, and on the other concerned with material gain from the white conservation organizations, which can provide livelihoods. Under white rule the local traditions had tended to be broken down, ridiculed or oppressed, while little opportunity to integrate into white society has left no tangible alternative system. There was some syncretism, however, where the two cultures merged.

The older people in particular were concerned with the preservation of their traditional culture, not simply as dances and artefacts for westerners, but in its spiritual dimension. They expressed positive attitudes to the idea of incorporating information about traditional culture into the education centre. As much of the traditions are based around ecological principles such as interdependence of nature and humans, this idea could be very appropriate. The PRA provides the groundwork for this in documenting some underlying principles of the society. One interesting example is that the local tradition of eating with hands from a shared bowl symbolizes togetherness, while the western tradition of eating with a knife and fork is seen to reflect an inability to share and individualism. Despite their criticisms of the west, local people aspired to the safety and comforts provided by the consumer society.

Animal symbolism was a particular focus of the interviews. Painted dog 'muti' (magical or curative properties of body parts of the animals) is usually associated with real qualities of the dogs such as good sense of smell, swiftness of foot, hunting ability, used to warn off bad people. Interestingly, black Zimbabweans saw white attachment to particular species (dogs, elephants, rhinos etc) as totemic and in some ways similar to their own spiritual beliefs.

The PRA suggested various ways in which understanding of local culture could advise the running of the dog project and the design of education materials. These were taken into account in designing the education centre. One example is that the overall design of the main display is told as a story, using paintings by local artists, of the life of a painted dog. Story telling and parable are a salient element of Ndebele society. We are also incorporating scientific information, weaving this into the story structure. We hope to be able to bring the best of both societies to bear in the centre. There is further information on the contribution of the UK PRA below.

Third PRA

Siren Conservation Education advertised a PRA position in June 2004, on 'environmentjobs.com' which attracted 25 applicants. The five shortlisted candidates were asked to respond in less than 1000 words to an outline of the problem of bush meat illegal hunting around Hwange National Park. The results were disappointing in the sense that the candidates appeared to be able to shed little light on solutions to this seemingly intractable problem over and above those we have already identified. Therefore, it was decided that rather than send an additional PRA, we would create a position of research associate at Siren, which was granted to Guy Packer, DICE, for ongoing consultation and advice on this subject. Guy Packer is reviewing bushmeat and its solutions. Attendance at the recent London Zoo conference also suggested that there are few solutions working in the field. Siren are planning a conference which will address solution based conservation strategies to elucidate processes which work, rather than focusing on the problem. We will be seeking funding for to host this conference in 2005.

Training and Capacity Building

Training

Alfred Mpande & Vusumusu Sibanda two local teachers, were identified as having the right credentials, experience and attitude, and so were employed on a contractual basis to get the training process started. They assisted Bruce Lombardo in his research to produce the draft curriculum for the Bush Camp and training course.: A training programme was devised by Bruce Lombardo, Vusumusu Sibanda and Alfred Mpande. The teacher guide manual is included as appendix 3.

Bush Camp Guide Training: The training course for educators at the bush camp took place in September 2003 to flow into the opening of the Bush Camp. Interested candidates were required to possess a Zimbabwe Learner Professional Guide's licence, which is also the requirement for a guide in Hwange National Park. Each guide filled out a lengthy questionnaire, and twenty participants were chosen. The free training course lasted 5 days and 4 nights, and took place at the Iganyana Bush Camp between 26-30th January 2004. Nineteen trainees attended. The theme of the training was "The Philosophy and Techniques of Conservation Education with Primary School Students." The District Education Officer and Teacher Trainers from the Zimbabwe Ministry of Education helped Wilton and Bruce train the guides in such topics as Childhood Psychology and Development, Teaching Methods, How People Learn, The Goals of Conservation Education and Outdoor Education Techniques. Practical sessions gave trainees an opportunity to try new techniques and demonstrate their potential for working effectively for children. A written test also helped us choose the top six candidates.

The top six were invited to be paid trainees in a second session from 5-6th May. This additional training focused on the running of the bush camp and the conducting of activities. Detailed lesson plans were scrutinized and activities were practiced. Two of

the guides, Ihupuleng Dube and our own Dought Nkomo, worked with Wilton on the first bush camp for Sianyang Primary School on 12-14 May 2004. Certificates provided to participants of the training are included as appendix 4.

Headmasters Orientation Day at Iganyana Bush Camp (Additional output):

Headmasters, grade six teachers and one representative of the School Development Committee from each of the 14 primary schools chosen for the pilot program of the free bush camp experience, were all invited to the bush camp for a full day's orientation on 4th February. Forty-two educators attended. The day included a thorough introduction to the conservation education program and a tour of the whole CCEC, including the Iganyana Bush Camp and the Painted Dog Rehabilitation Facility.

Interpretive Walks Training Workshop (Additional output): As a goodwill gesture to the National Parks and Wildlife Authority that manages Hwange National Park, an "Interpretive Walks Training Workshop" was offered on 11 December, 2003, 08:00-18:00, in the Hwange National Park Headquarters Conference Room. 25 National Parks Staff from Matabeleland North Province attended. The workshop emphasized the philosophy and techniques of interpretation, interpretation as a park management tool, and trail techniques. Opportunities to practice techniques were included in the workshop. See the three attached handouts for details on content and workshop outline in appendix 5.

5. Project Impacts

The Painted dog has been given higher legal status and was declared specially protected, which is the highest available form of government protection in Zimbabwe. This is most likely a consequence of the heightened awareness and profile of the Painted dog as a result of this project. At a lower level, but most importantly, there appears to be both an increase in the local community's interest in biodiversity and a concomitant change in behaviour: the local community have started to provide more feedback about the dogs and wildlife in general, as evidenced by phone calls reporting sightings. Whether as a result of anti-poaching efforts, or increased community involvement, poaching figures in the region are down by 30% on last year. The project has helped Zimbabwe meet its obligations under the Biodiversity Convention by providing environmental awareness and training and providing incentives for local people to undertake biodiversity conservation and sustainable use of local resources within and around Hwange National Park. An outline of the community conservation education and development programme follows.

Community Conservation Education Programme

The Community Conservation Education Centre



Fig 4-6 Paintings for the interpretation centre which in situ are 1.5m by 2m and each represent a stage in the life story of a painted dog living in and around Hwange National Park

Interpretation materials for the CCEC

The pictures above are examples of the large format (1.5m by 2m) paintings by Calvin SURNAME which form the basis of the education centre. Each depicts an element in the story of the life of a painted hunting dog living around Hwange National Park. The story was devised by Sasha Norris and Bruce Lombardo to reflect a scientifically accurate life history of a dog, while drawing out the elements of the dogs life which would achieve our goals of:

1. inducing empathy (social life of dog, family interactions, caring parents, communication)
2. creating scientific understanding (territorial behaviour, hunting, prey types, denning etc)
3. elucidating human impact on dogs (snaring, road kills)

The CCEC is a circular room and each large format mural forms the basis of a 'station' which draws out elements of the murals to interpret

1. natural history (each mural is set in a different habitat) (Bruce Lombardo)
2. dog behaviour and ecology Bruce Lombardo and Greg Rasmussen
3. environmental issues and what you can do to help (Sasha Norris and Guy Packer)
4. cultural information (Sasha Norris)

The materials were produced by different members of the team (see brackets) but all have been internally reviewed by all members of the team and adjusted according to feedback.

Appendix 6 comprises interpretation centre materials including:

Interpretive hall design

Story board paintings

- a. hunting
- b. dispersal

Deeper information panels for Interpretation Centre: Painted Dog information

Deeper information panels for Interpretation Centre: Siren environmental message posters

1. Woodcarving in Zimbabwe
2. Wood carving case study Kenya
3. Human predator co-existence
4. Human-wildlife co-existence a case study
5. Carnivores are key stone species
6. Carnivores endangered – a case study
7. Problems with small populations
8. Small populations – the science behind the problem
9. Snared!
10. Snared – a case study for community conservation
11. Why protect wild dogs – physical values
12. Why protect wild dogs – additional values

Building of the CCEC

The project undertook the building of a Children's Bushcamp, an ecological exploration enclosure, and a rehabilitation unit for injured dogs in association with the Darwin CCEC. The Bushcamp, Enclosure and Rehabilitation Unit are now open and functioning. The CCEC is in the final stages of construction. Interpretation materials for the education centre have been researched and designed, and produced. In order to meet the Darwin obligations, the interpretation materials for inside the CCEC will be housed temporarily in the Bushcamp until the imminent opening of the CCEC. This was agreed with the Darwin Secretariat following the last reporting period (as per email of 8th October 2005). All are completed and functioning and are all additional outputs on a major scale. The CCEC itself is not finished for three reasons:



Fig 7-9 Classroom at the children's bushcamp; children queuing for lunch at the bushcamp, children playing in the open platform area of the bushcamp.

1. The CCEC or Visitor Centre was considered lower priority due to the down turn in tourist numbers due to the political tensions within the host country.
2. Socio-economic downturn in Zimbabwe has severely delayed construction by creating logistical difficulties in terms of securing building materials and transporting them to the site. Where an order would previously have taken a couple of weeks to arrive, they took 6 weeks, and often there is no predicting when or whether materials will become available. In addition there is increased stress on the local population, which can lead to problems for employees. Added to this is the extreme difficulty in acquiring enough basic food ('mealie' meal) for

the building team, even with the considerable assistance afforded us by the DA (District Administrator) and the Chief. It is a point of significance that in the current socio-political climate the project was highlighted as one of national importance and an officer of the DA's office was assigned to facilitate on behalf of the project where needed.

3. The anticipated timetable for completion of this facility has roughly doubled, a side effect of the otherwise resoundingly positive decision to use local labour.

Children's Education Iganyana Bush Camp

Iganyana means 'Painted dogs' in Sindebele, a name significant for local people. The facility, which is completed, open and functional comprises a circle of 22 thatched sleeping huts enclosing teak woodlands. There is an open-air dining room, kitchen and activity deck, which serves as the camp's central meeting point. The activity deck is open on all sides and partially spans the fence of the 600-meter diameter Painted dog enclosure. Children have the opportunity to see Painted dogs roaming through the forest. Just the chance to climb stairs to a level above the ground floor will be a first for many of the students.

Bruce Lombardo joined the project on a full time basis in June of 2003. His goals have been to create the bush camp curriculum, design the conservation education program, train the bush camp manager and guides, supervise the educational community development program, and design the Painted dog interpretive hall for the CCEC visitor centre, due to open at the end of 2004. Towards the aim of creating a culturally appropriate educational program, Bruce has had the assistance of two key advisors, both local schoolteachers.

Adjacent to the bush camp, is the Environmental Education 'Exclosure', an area nearly 300 by 200 meters of woodland, surrounded by electrified fencing to exclude dangerous wildlife. This 'exclosure' allows the bush camp guides to lead their children in exploratory activities, which are otherwise impossible in an environment that hosts lions, elephants and Cape buffaloes. Without the exclosure, access to the African bush is very limited. All trees inside the exclosure have been tagged, identified and measured, and are the subject of a research programme to analyse the effects of excluding herbivores from the area. We are looking into the possibility of releasing some small safe herbivores into the exclosure for the children to discover.



Figures 10-12 Children arriving at the Bushcamp; orientation in the Bushcamp grounds, in front of the main classroom; John, a painted dog in the rehabilitation centre, named after the Australian zookeeper from Sydney zoo, who designed and oversaw building of the facility.

Outreach: The education department, staffed by the new recruits and recent trainees, undertook an outreach programme to local schools as well as a programme of bringing schoolchildren to the Bushcamp to discover ecology and conservation with a focus on painted dogs. The Community Outreach Programme has educational contact with a total of approximately 4,400 students in the 15 targeted primary schools. Of these, the most intensive contact is usually with the approximately 1,800 students of grades 4-6. These numbers include the 602 children who also attend the bush camp.

Teacher's support materials were produced in association with the children's bushcamp curriculum. Particular emphasis was placed on making these relevant to the Zimbabwe National Curriculum. An Education Booklet has also been produced and 35,000 copies distributed throughout the local community and on a National level. A suitable person is being sought to have the booklet translated into Shona and Ndebele.

Scope and Range of education programme: The bushcamp programme is free of charge for all grade six students from the closest 14 primary schools to the Community Conservation Education Centre (CCEC): Mabale, Gwayi Valley, Main Camp, Dopota, Nabuchome, Sianynaga, Lupote, Songwa, Ndangababi, Chezho, Dete, St. Francis, Mambanje and Damba Primary Schools. An analysis of Zimbabwe's national environmental science syllabus led the project to decide to focus on grade six students, for whom the most overlap exists between our own conservation education curriculum and the national syllabus. The free program will host 17 classes per year, at an average of 33.3 children per class, reaching 566 students per year. In addition to the 14 schools in the pilot program, there are several dozen primary schools that could be targeted, depending on the criteria used to choose schools bordering the dog population's range. Some of these schools are so far from the bush camp that transporting them could be problematic.

Children whose schools are in the catchment area come to stay at the bushcamp. To be effective, the bushcamp programme must last several nights. Although a longer program is planned for the near future, the current pilot program will last 3 days and 2 nights until further facilities are completed and guides can be trained for additional activities. All programmes are child-centred and activity-based for maximum effectiveness. Classes will be divided by their teachers into two or three activity groups, made up of no more than 15 children. Each group will be assigned to a specially trained and licensed guide who will be with them for the duration of the experience. Activity groups rotate through a series of experiential learning activities, including woodland scavenger hunts, forest adaptation studies, tree hunts, wildlife explorations, meeting and studying Painted dogs, and game drives into Hwange National Park. Though they live right on its borders, most local people have never visited the national park due to a shortage of discretionary income. Also, foot traffic in the park is prohibited due to dangerous wildlife species, so visitors need vehicles in order to officially enter. The opportunities represented by the bush camp are thus unique.

Both the Children's Bush Camp Programme and the Community Outreach Programme are offered free-of-charge to primary schools in fifteen communities that border the range of Hwange's painted dog population. The total number of children from local communities who attended the three-day conservation education programme at Iganyana Bush Camp this year was 602, plus 55 adults. An additional two Zimbabwean "donor schools" (schools that not only cover the cost of their own camp, but sponsor a local school as well), from the cities of Harare and Bulawayo, participated in the bush camp programme, for a grand total of 656 children and 63 adults. It is hoped that the donor school idea will expand and appeal to more schools over time in order to support

the free-of-charge programme. Unfortunately, only the wealthier schools will be able to afford it.

So far this year twelve schools have visited the Painted Dog Rehabilitation Facility and the CCEC walkway and trail system to learn about the plight and natural history of painted dogs. Since many schools send their grade seven classes to Hwange and Victoria Falls after exams, it is expected that this number will increase greatly next year. A member of the project staff from the local area has been trained to lead educational tours of the CCEC.



Figures 13-15 Teak woodlands inside the bushcamp enclosure; Ihupuleng Dube, bushcamp guide with children from local school, child working with education materials produced by the Darwin Initiative project.

Environmental Education Officer

In October of 2003, the Environmental Education Officer (EEO) was employed to oversee the Iganyana Bush Camp program. Candidates needed to be local people with a firm background in education, having teaching experience with primary school children, conservation education, administration, and preferably a guide licence in Zimbabwe. Wilton Nsimango was headmaster at Dete Primary School. Wilton has over 20 years of experience in primary education throughout northern Matabeleland. He has a Masters Degree in Educational Administration and he was a teacher trainer in environmental science. Wilton started his position on 13th January 2004.

Bush Camp Vehicle:

The vehicle is a specially adapted Land Rover with an extended 150 chassis to allow a bank of seating accommodating up to 20 children at a time. Bruce Lombardo will supervise the final fitting-out of the vehicle in Harare.

Appendix 7 comprises the education programme curriculum and teacher's support material including lesson plans and logistical information regarding operation of the bushcamp.

Bushcamp – education programme materials, teacher materials and curriculum support materials

Student orientation plan

Education centre activities and materials

- Children's bushcamp overview
- Pre-camp questionnaire
- Activity areas
- Evacuation procedure

- Sample itinerary
- Programme Description and Philosophy
- Curriculum
- Bush Camp Assessment procedure
- Detail of Bush Camp fees
- Bush Camp Guide training itinerary and syllabus
- Bush Camp Fence policy
- Emergency and evacuation procedures
- Educational themes I and II
- Closure
- Camp fire anti-poaching play: Teach your children well

Lesson plans: Tree search

- Tree adaptations discovery
- Teak woodlands scavenger hunt
- Meet the dogs
- Game drive

Common Tree list
Activities and logbook worksheets

Teacher support materials

- Student Orientation Plan

Activity areas: what happens where?

- Ice-breaker activities
- Free time activities
- Free-time games
- Evening activities
- Fun Activities

Economic development programme

Community Development Project

Consultation with community development organizations, local schools and community leaders convinced us that the best way to change local attitudes about resource use strategies and to engender income generating eco-friendly projects was to work with children, using schools as the entry point for affecting local community attitudes. John Nyilika Community Development Officer (CDO) has been employed in conjunction with WEZ, for whom he previously worked in Matabale Land. His salary and benefits are split 50-50 between the project and WEZ. In contrast to Wilton's bush camp program, John Nyilika's program occurs in the schools, and teaches children very practical skills that can improve the quality of their lives, generate incomes for their families in the form of fruits and vegetables they can eat and sell, and better sustain the local environmental resources.

The CDO visits each school approximately six times a year. With an average of approximately 90 grade 4-6 students per school, John Nyilika primarily works with a total of about 1,250 students. John Nyilika typically spends about three hours with teachers and students on each visit. Over time, John Nyilika is converting primary school campuses into models of permaculture and hands-on learning labs for sustainable utilization. He is working primarily with grades 4, 5 and 6, but his permaculture gardens will inevitably involve children from all grade levels. Each school's program is unique to the needs of the school. After consulting with the school staff, John Nyilika works with

them to design a tailor-made educational program. So far John Nyilika has visited and developed programs with eight schools and worked with approximately 700 students. John Nyilika's mission has been enthusiastically approved by the District Education Office and by the schools he is working in. His program is targeting the same 14 primary schools that are included in the pilot program for Iganyana Bush Camp. The project produced materials to support his work which are attached in appendix 8. These materials were produced by John Nyilika, reviewed by Bruce Lombardo and Sasha Norris. These materials will continue to be refined to make them appropriate to the culture, ecology, activities and the locale.

The Iganyana Arts Workshop

The Dete PRA and PHDR's links with Wildlife Environment Zimbabwe (WEZ) led to the identification of community development projects (listed below) that are relevant to this area and have been promoted by the five WEZ Environmental Education centres elsewhere in Zimbabwe. All of the below are environmentally sound and sustainable use projects. Many are income-generating endeavours. Each WEZ centre promotes three to four such projects. All represented environmentally sound and sustainable use projects. Many are income-generating endeavours. Although some of these projects such as chicken keeping may provide people with alternatives to eating meat, our knowledge of local people suggested that people would simply eat more meat rather than replacing the meat in their diet with chicken. Furthermore, the PRA suggested that bringing income from arts and crafts, in a project strongly linked to a programme of conservation education would more likely result in changing people's behaviour and preventing snaring and hunting in dog-sensitive areas. These ideas were mooted within consultation workshops with the local community. The community chose artisanal craft production as their preferred option, thus instigating the Iganyana Arts Project

Potential income generating activities

Permaculture; Reed grass (for thatching); Vertiver grass (for erosion control); Reforestation and forestry; Aquaculture (fish farming); Seed bank; Bee keeping; Erosion control and gully reclamation; Passive solar energy; Fuel-efficient household stoves; Live fencing; Waste recycling; Cultural tourism; Papermaking; Elephant dung; Recycled paper; Artisanal Crafts.

From these, consultation with the local community revealed that an arts and crafts programme was the most popular as an income generating activity.

An arts workshop was established, located in a house in Dete, to train local people to produce arts and crafts which, in the short term can be sold by the project outside of Zimbabwe through retailers in the US and UK and also hopefully as the industry recovers, within Zimbabwe to tourists. The Iganyana Arts Workshop project provides new learning and skills-development for the community, as well as an enriching social experience and generating income. This project capitalises on the abilities already present in the local population for producing art and craft works by hand. A workshop was established in Dete. Posters advertising the centre brought in interest from local people. Two one day workshops were run from which 30 men (women did not attend – see below) showing skills in the arts were selected. These people are receiving training from local experts, thus allowing the transfer of skills between members of the local community.

The workshop is used by over 100 adults and children. There is a regular group of 13

women sewing (with waiting list of equal length), 20 adults painting, an average of 25 children drawing and painting per day, and 20 adults trying their hands at wire-sculpting. A diverse and extensive collection of saleable products have been produced including 500 hand painted wildlife images, which were placed on greeting cards made of handmade paper donated for the purpose. A test set of products fetched over \$800 in the US.

Some highly skilled individuals have been identified through these initiatives. Several have gone on to develop their skills, benefiting their families and communities. An added benefit is that the beauty and utility of their art improves the perception of the dogs. The 21 year-old local artist, Nxolisi Dhladhla, is creating unique works of art using wires from illegal snares brought out of the bush by the Painted Dog Conservation anti-poaching units.

An exhibit and auction of 200 of these works in London, sponsored by the Born Free Foundation and the David Shepherd Wildlife Foundation raised over £700. In terms of routes to market, a subset of products has already received US\$800 in a trial sale in the US. A wire sculpture of a baboon made by a member of the project raised £700 in a David Shepard auction at Christies. Dr. Sasha Norris at Siren is investigating potential retail outlets in the UK for sustainable crafts and arts from Zimbabwe. If the tourist industry picks up, the project, which has strong links with local safari lodges and tour operators including Hwange safari lodge and Touch the Wild, will be able to sell products through their outlets. In the meantime, Siren are also investigating fair trade policies to ensure all our interactions are appropriate – an unusual expertise for a conservation organisation! The report on the uptake of economic activities is provided in appendix 9.



Figures 16-18 child beneficiary, whose father has income from selling dog carvings; carvings of dogs sold to the US; carver wearing Painted dog T-shirt.

Storybook

The book (Nkululeko: What humans mean to dogs) is about a painted dog, called Nkululeko (freedom in Ndebele) who sets off to make a family of his own and finds himself snared (literally) in an adventure culminating in a journey all the way across Zimbabwe to find his family. Along the way he learns about the worst and the best in human nature with the help of human hero by the name of Chipso. Zimbabwean human life is also glimpsed in all its rich traditions, warmth, hardship and good humour. The book aims to:

1. Bring the biodiversity of Zimbabwe alive through pictures and interactions of species including grasses, butterflies, prey animals and trees with the dog
2. Encourage an awareness of Zimbabwean ecology and geography by having the dog travel right across the country from west (Hwange where the dog project rehabilitate him) to east (Gonarazhou where his pack live)

3. Show the relationships between the dogs and their 'team spirit' to encourage empathy
4. Bring awareness of the plight of the painted dogs, how humans are harming them and what can be done to help

The full text of the storybook is included in appendix 10.

The decision was taken to seek and employ a Zimbabwean artist to produce a full colour storybook on the dogs with scientifically accurate children's pictures representing a wide range of Zimbabwe's biodiversity. This has involved liaison with the Bulawayo National Art gallery to find the correct artist, and with the Natural History Museum to provide materials and specimens from which to draw. The artist in question has also been to the project field base to spend a day observing dogs and other biodiversity and to receive training on natural history observation from Bruce Lombardo. This represents a significant improvement on the original plan for a book with black and white drawings. Furthermore, the cost of producing the book has increased by 200%. These costs have been met by Siren, and Sasha Norris' time input has tripled, a cost also met by Siren.



Figure 19 (above and right) Dr Sasha Norris in cave at Mtopos researching the storybook.

Zimbabwe's National Biodiversity Strategy and Action Plan BSAP points out that the Painted hunting dog needs to be placed in the CITES category of specially protected animals because of the rapidly declining numbers resulting from conflict with people. Among various 'unmet biodiversity needs' for achieving the objectives of the Convention on Biological Diversity in Zimbabwe, the BSAP identifies the following, both of which have been directly addressed by our project.

- Inadequate environmental awareness, education and training at various stakeholder levels (ranked as third most important)
- Inadequate incentives for local communities and individuals to undertake biodiversity conservation and sustainable use initiatives in both protected and non-protected areas (ranked second most important).

The project is employing over 70 local people, most as unskilled manual workers and 4 trained teaching staff, and an office administrator. All staff will be retained. The camp will continue to run indefinitely.

- The education department of the CCEC has trained and employed 14 local people.
- A Community Development Officer conducts the Community Outreach Programme - (see programme description in appendix 8). Also a former headmaster, John Nylika is an expert in conservation education and sustainable agriculture. He works full-time out of the CCEC office. Siren have agreed to fund his salary for a further year.
- 1 Environmental Education Officer. Serves as bush camp director. A former headmaster from one of the target primary schools, Wilton Nsimango showed unique initiative in outdoor, conservation and computer education. Wilton will remain with the team indefinitely as a key member of staff.
- The following staff members are essential to the running of the bush camp community education programme and will be kept on.

- 1 Bush Camp Grounds Supervisor.
- Also a licensed guide and trained bush camp teacher, Dought Nkomo supervises the two full-time groundskeepers.
- 5 Bush Camp Guide/Teachers. These five licensed guides already well-versed and experienced with the local natural history, completed two special training courses offered by the project to teach them how to teach environmental education to children. They placed at the top of their training class. So far, they are part-time employees that work when the camp is in session. Two to three of them work each camp, along with Mr. Nkomo.
- 1 Bush Camp Housekeeping Supervisor. Caroline Ndlovu supervises three cooks and cleaners.
- 2 Bush Camp Groundskeepers
- 2 Bush Camp Cooks/Cleaners
- 1 Bush Camp Cleaner
- The rehabilitation unit is staffed by six people all of whom have been trained and will be kept employed by fundraising.
- Iganyana arts project is giving work to 50 freelance artists. This will continue.

The UK and local partners have worked excellently together. Strong links now exist between the project, local governmental organisations and the local partners discussed below in Section 8.

Social Impact



Figures 20-22 chef at the bushcamp; children from Dete whose school is part of the community education programme; Wendy Blakeley paying a carver for his product.

In an area where people are desperate for jobs, income and education, the project provides a real lifeline to adults, as well as an enormous morale boost and experience beyond their daily lives for many children. Most of the children who came to the bush camp had never been in a vehicle, never been inside the National Park, and many had never had three meals a day. One little girl said how she loved having 'time to think about trees rather than doing chores'. Another that he loved to learn the the names of the trees as where he lived, there was only one tree left. The permaculture, school yard garden and tree planting projects are longer term and their impact has not yet been fully felt. But already these are starting to give people tangible environmental benefits, produce to eat and sell as well as a sense of enjoyment and pride. More than 5000 school children have undergone either the bushcamp, or community development training.

50 people have been employed in the Iganyana arts project and a further 50 are in training.

Bruce Lombardo, an American teacher from the International school in Harare has been employed by the project, His salary, and those of the other bushcamp key teaching staff are being funded for a further year by Tusk and Siren to consolidate the work they have undertaken,

Zimbabwean artist Tomy Ndebele is undertaking the illustrations for the storybook. Tomy will add a huge amount of kudos to the project in Zimbabwe, as one of the foremost artists in the country. Conversely, for Tomy, having his work promoted in the UK is something many African artists are striving for.

Figure 23 (below right) Wooden Carved painted hunting dogs produced and sold through the project

Evidence of further impact comes from the continued surveying of participants as well as the increasing number of schools (numbering around 14 so far) making contact with the project and asking to be involved. Many schools outside of our current range are requesting the chance to come to the bushcamp. The project is assessing its ability to incorporate more schools, perhaps by training more staff and running camps on the days not currently covered.



The Darwin funding has necessitated and enabled an increase in staff numbers. The dog project is employing 70 local people in construction of the education centre as well as 4 staff in the office. In addition, several local people are volunteering, mainly undertaking computer tasks. Local labour was being used throughout with necessary skills being taught where they are lacking. The community learnt new and valuable skills, and are proud of what they see as their showcase. Indicators of social impact include the number of people involved in income generating projects, amounting to over 1250 students and their families, in projects such as fruit tree planting and permaculture, and 100 adults in the Iganyana arts programme.

6. Project Outputs

All project outputs are quantified in the table in Appendix II using the coding and format of the Darwin Initiative Standard Output Measures.

All outputs were achieved except the storybook and completion of the building of education centre. This is explained above in section 5. A peer-reviewed paper has not been submitted. This is due to Greg Rasmussen, the principle investigator and co-leader in the project having been effectively not working due to severe injury in an aircraft accident. We will endeavour to produce papers based on Paul Maiteny's UK PRA and on the education programme and research questionnaires.

Full details are provided in Appendix III of all publications and material that can be

publicly accessed which has been produced in association with this project.

The materials have been distributed widely through the local community on school visits, sent to those requesting it and are available at the community conservation education centre. All materials are also available on the Siren website www.siren.org.uk. All materials will continue to be available in the future as long as they are needed.

Press Release:

The press release was published in the form of a feature article in the main Zimbabwean newspaper, The Chronicle, on 16th September 2002. The article was extremely positive, recognising that such development in the area is significant for the country as a whole. A follow up article / progress report will be published later this year and a main feature announcing the opening of the CCEC will also be published.

7. Project Expenditure

See Tables a and b for a breakdown of the projects expenditure. This includes the final 10% of grant monies due to the project from DEFRA which has been temporarily cashflowed by the project partners.

Table A: Salary Costs	2002-03	2003-04	Total
Other			

There were no agreed changes to the budget although the project start date was with the agreement of Darwin deferred to September 2002.

There has been no variation in the projects expenditure.

8. Project Operation and Partnerships



Thirteen local partners are involved. These are listed below. The development of the partnership with WEZ continues, focusing on the community development aspect of the project. Meanwhile an effective relationship between PHDR and the Africa Centre for Holistic Management has also developed this year, resulting in a significant cross-pollination of ideas. The Africa Centre, based near Victoria Falls, is an indigenous organisation, which undertakes conservation-orientated safaris and

bush awareness courses, together with anti-poaching activities and community development work.

Figure 24 The Natural History Museum of Bulawayo is a new project partner organisation

Professor David Macdonald of Oxford University's Wildlife Conservation Research Unit commented on the first annual report and met with Dr Sasha Norris to advise on project milestones. In this same meeting, we also consulted on the very difficult problem of bushmeat hunting and trade, which has been exacerbated in Zimbabwe over the last twelve months due to the economic situation. We will continue to collaboratively investigate the best ways to address this growing international problem. A list of partners follows.

- Wildlife Environment Zimbabwe are an ecological outreach and educational organisation, which collaborates on Community Development programme, helping with recruitment of staff and advising on content of programme
- Environment Africa, a conservation NGO, has advised the project on CDO techniques
- CASS (Center for Applied Social Science at the University of Zimbabwe, Harare) are advising on a Masters by Research Degree into the efficacy of education component of the project.
- The Zimbabwe Ministry of Education, Sports and Culture have provided advice, support and permission to operate with schools in Hwange and Lupote Districts
- The Museum of Natural History is providing access to its specimens for artists associated with the education centre and storybook, thus opening up a new link within the country between Art and Biodiversity. The artist for the storybook will be using skins and specimens to ensure the illustrations are as accurate as possible
- National Art Gallery of Bulawayo. Artists are painting pictures for sale in the education centre and we are buying these directly from them
- The Rural District Council and Teachers Council have been extensively involved in the bushcamp planning.
- The National Parks and Wildlife Management Authority have provided advice, support and permission to enter parks free of charge with school groups from the bushcamp
- The Mzilikazi Art centre is also becoming involving in the art initiatives. Tomy Ndebele, the storybook artist, is connected to this centre
- Touch the Wild Safari Lodge
- Hwange Safari Lodge
- The Darwin Initiative Lion project, which we have worked with on plays for the theatre group. Members of the lion project also assisted in developing new ideas and concepts in tandem with the community outreach schools programme

All plans were designed carefully with local consultation in mind and either by or with local people. As an example of the effects of local people input, the project is using the UK PRA results to incorporate a cultural aspect to the interpretation centre as requested by members of the local community. The project is continuing to provide computer skills training as requested by the local community in the local PRA. Plans are constantly modified in response to local consultation questionnaires and workshops.

In the remote area that is Hwange, constant logistical collaboration exists between projects in order to survive. As a prominent example of this, Greg Rasmussen was flying a light aircraft for the National Parks Rhino Project when it crashed in 2003. In terms of

Darwin collaboration, the Igananya Arts Workshop is now the home of the The Lion Project theatre group, and the team are being rehearsed and trained by Wendy Blakeley who runs this project. Furthermore, Siren are now working with Hwange Lion Project and Dr Andrew Loveridge to ensure the long term survival of their theatrical group and to provide ecological education materials to accompany their dramatic message when they visit schools. There is a plan to use the bushcamp vehicle to drive the theatre group to schools, when the bushcamp children are being collected, thus maximising its efficiency.

Tusk Trust, Siren Conservation Education, and the Wildlife Conservation Research Unit, Oxford University are the main international partners. The local partnerships are very much active and all projects are ongoing. All partners are still working together on the painted dog project. All work ties in with local biodiversity strategy on community ecological education and sustainable development. The main role for the private sector is tourist industry providing markets for the arts products of the project. More community participation is always needed and we will continue to engage as many people as we are able.

9. Monitoring and Evaluation, Lesson learning

PHDR has submitted monthly written reports to Tusk and Siren, while Siren has produced quarterly reports to Tusk, as the overall project administrator. In addition to the written reports, regular meetings have been held between Siren, PHDR and Tusk personnel to monitor the project's progress, outputs, and achievements. In particular Tusk and Siren have tried to assist PHDR with the difficulties of operating in Zimbabwe at present. Regular reports are also filed by PHDR on their anti-poaching work, which has clearly indicated a 30% reduction in poaching in the project area.

Measurable indicators have included questionnaires showing changes in attitudes towards biodiversity in general and hunting dogs in particular following attendance at the bushcamp, or involvement in income generating projects. 15 new income generating projects have been undertaken involving over 1250 people. Snaring is down to 30% of pre-project levels and more than 14 schools outside of our range have requested involvement in the projects. 35,000 copies of a booklet have distributed, and we have 30 new computers awaiting installing in our new classroom.

The main problems were socio-political. The local community were incredibly open to the project and very willing to engage. However, due to the political instability it was difficult to know what was going to happen one day to the next. When we applied for funding from Darwin, Zimbabwe had a thriving non-consumptive tourist industry. In our region, this has now all but disappeared. In the time taken to establish the income generating arts and crafts project, the political situation has deepened and shows little sign of receding. When we started we were unsure if it would last longer than a few months. We have tackled this shift in markets by attempting to export the artisanal products we are making rather than rely on tourist markets.

People previously employed in the tourist industry have become unemployed as tourists have stayed away, fearing civil unrest. The incentive to preserve wildlife has reduced as far fewer people are deriving a direct financial benefit from it. While this project worked to address this, we are faced with a country-wide crisis. We have protected the wildlife in our area by keeping local people positive towards wildlife at a time when many communities have turned to over-exploiting it for sustenance and money. It has felt difficult undertaking efforts with long term goals, such as education, at a time when

the number of snared dogs (not locally but nationally) has radically increased and pressure has been on to react with short term interventions such as dog rehabilitation. We have soldiered on!

The conservation education materials were all reviewed by Siren staff. Siren staff (Dr Sasha Norris and Emily Shepard) also observed all bushcamp activities and gave feedback to the bushcamp team. For example, painted dogs in captivity at the rehabilitation centre are seen by children. As a result of observing the dog enclosure lesson, Siren revised the lesson plan in line with modern conservation thinking, placing much more emphasis on why the dogs were in captivity (rehabilitation only) and why dogs in captivity are generally not a good solution for conservation.

The project now has a conservation biologist undertaking a Master of Science examining the education programs of CCEP, how they are fitting into the communities, what message(s) is (are) getting to the communities from the projects, how do these relate to the original goals of the projects, and how this relates to conservation. This research programme is being devised in association with CASS in Zimbabwe (Center for Applied Social Science at the University of Zimbabwe, Harare).

If we started the project again we would have had in place a priori a series of questionnaires, which would go to participants of the bushcamp (pupils, teachers and parents) before and afterwards. Now underway, this research project will give us valuable data on the attitudes of local people and how these change after attendance. Furthermore, it will advise us on whether the bushcamp syllabus is appropriately devised. This longitudinal study will ascertain whether and how education is affecting people's attitudes and behaviour. While the PRA gave us valuable information, the team concur that it was not the most cost-effective way of evaluating the project. Devising a scientifically robust series of questions and analysing these over a longer time frame will give us a deeper understanding of whether our activities are having a positive impact on people's perception of biodiversity. Questionnaires are being advised and reviewed by Dr Paul Johnson, statistician and Oxford University's WildCru and author of questionnaires for the research for the Burns Report on Hunting with Hounds.

The storybook is currently under review in five schools by teachers and pupils. This review procedure is an additional internal form of review. The peer review originally planned has been completed and undertaken by UK and Zimbabwean scientists and teachers. However, before publication we wanted to ensure that the book was:

- a. culturally appropriate
- b. interesting and attractive to locals and
- c. achieved its goal of teaching about biodiversity.

The questionnaire used to assess responses is included in appendix 10.

With regard to key lessons:

The PRA was very expensive. As mentioned above we believe we could have devised a research programme in association with our activities, which was more cost effective and longer term.

Local input is essential. In a country fraught with racial tension such as Zimbabwe, working well with local people at a high level in the management team of the organisation is crucial.

Reporting has been very useful as it made us focus on the delivered achievements and never let us rest on our laurels reflecting that we were doing anything at all in so difficult a country to operate in. However, I have found (Sasha Norris) the report forms repetitive and have not always known into which box to put which information. I have very mixed feelings about these reports, as they take up so much time, although they do ensure the project achieves all it was committed to. With regard to advising other projects, I would encourage constant communication between staff in the host country and those in the UK, and that it is vital to keep report forms to hand at meetings so that when deadlines loom, you have the information needed to answer. We have had times when elephants have trodden on our phone lines and I have been desperately trying to get information out of the Zimbabwe office, to no avail.

10. Actions taken in response to annual report reviews (if applicable)

Gregory Rasmussen answered the queries from the 2003 first annual report, regarding community engagement and PRA being undertaken too late for the community to feel a real sense of involvement by explaining that we had not reported on earlier community workshops and talks which occurred before the beginning of the Darwin grant. Darwin also raised the issue of bushmeat and whether the activities we had undertaken were truly addressing this issue. We have spoken with Prof. David Macdonald and Lise Albrechtsen at Oxford University, but there seems to be no model project that has really caused a shift away from bushmeat poaching. We believe that through ongoing engagement with the local community and through our anti-poaching activities we will induce change. Indeed in the area around our project poaching is now controlled (see report from Anti-poaching unit Appendix 2) and snaring has dropped by 30%. The next PRA will address this even more closely. Discussion documents have been created within the organisation. All reviews have been discussed with collaborators.

11. Darwin Identity

The Darwin logo was used by Siren as a benchmark of quality of our conservation work by staff in talks to International Marine Mammal conference, The Rotary Club, Downe House School, RSPB Members and to other potential funders including Vodafone from whom we have secured funding for the Pan African Conservation Education initiative. Darwin's support has been promoted by each of the partner organisations through use of the Darwin name and logo on their websites and in promotional and information literature. A set of web pages dedicated to the activities of the project bear the Darwin logo. All materials developed through the project acknowledge Darwin support and bear the logo. All press releases, popular articles and TV and radio coverage have acknowledged the Darwin Initiative. PHDR field vehicles bear the Darwin logo, including the bushcamp bus, 4-wheel drive vehicle and the safari vehicle for trips to the national park. The storybook, when publicised both in UK and in Zimbabwe, will bear the Darwin logo on the back cover.

Locally, this is the first project to ever initiate something on this scale for the benefit of the community. During the year, the project has been promoted at all levels from national media to local workshops and meetings as a Darwin Initiative project. The best African media, namely word of mouth, otherwise known as 'the bush telegraph', is also working very much in our favour! The local communal lands chief, Chief Nelukoba, continues to put his full support behind the project.

Regarding national profile, our awareness-raising about the plight of the dogs is rapidly turning the species into a flagship. We had to manage the promotion of the project as being funded by DEFRA carefully, as relations with Zimbabwe are delicate. This was partly to protect the project and its staff. Nonetheless, Darwin names and logos have been used throughout. The project was deemed to be of national importance by the District Administrator and government officials from the Ministry of Education, who are aware of the Darwin name and its significance.

Furthermore, fundraising events by humanitarian groups such as 'Rotarians' as far away as Harare, aimed at providing additional financial support and support in kind for the project are further indicators of the growing interest in the initiative, the plight of Painted Hunting Dogs and thus in the capacity for biodiversity.

12. Leverage

In total, additional investment to the project amounts to £150,000. This includes a contribution of £56,000 from Tusk Trust and £12,000 from Siren, examples of external donations include £500 from the pupils of Downe House school and £1000 from The Glade Festival. In addition to the project partners investments, considerable support has been provided by David Shepherd Conservation Foundation, Prince Bernhard, Dutch Zoo Foundation, the Born Free Foundation, and also various eco-volunteers who pay to come and work at the centre for several weeks at a time.

As a direct result of the collaboration between Siren and Tusk during the Darwin project the UK project staff have devised a Pan African Conservation Education Initiative which has attracted full funding from Vodafone Group Foundation and will benefit numerous education centres/schools and rural communities throughout Africa including the Painted Dog Conservation Project.

13. Sustainability and Legacy

It is our intention for all aspects of the project to continue running, staffed and managed entirely by local biodiversity experts and to be financially self sufficient (see below).

All of the partners will keep in touch, as mentioned above, Siren and Tusk are undertaking a new Pan African conservation education programme, the products of which (films on sustainable living and conservation for African audiences) will feed back into the project. Furthermore, all partners are committed to continue to preventing the decline in painted dogs, as long as it takes.

Our aim has always been for the development initiatives to be self-sufficient by the conclusion of Darwin funding. To this end, there is an ongoing programme of training of local people, which has been running extremely successfully with large interest and take-up. However, the transference of the project from being funded by outside donors to being self-sufficient will take several years and depends on:

1. tourist numbers increasing back to pre-2000 levels or
2. sales of artisanal craft products outside of Zimbabwe.

The initial responses in the United States to the craft products have been extremely positive. This suggests the presence of a real market for these products and supports the project's aims of these activities being economically viable. Artworks will also be sold

in the CCEC (visitor centre). This centre with the opportunity to see the elusive painted dog (now ranked as in the top five most desirable spots on safari) will be unique in the area. Our strong links with tour operators and safari lodges in the area will ensure that the centre is visited by all tourists to the region bringing income from the shop sale and from entrance fees.

In the meantime, Darwin have funded a project in Zimbabwe at a time when securing funding for work here has become much more difficult. All members of the partnership are fund-raising to ensure staff members will be employed to work in the education centre and community development projects beyond the Darwin funding. As mentioned above, Siren and Tusk are already covering the salary of two key education personnel.

Other sources of financial sustainability:

The development of the paying volunteer programme by PHDR has been hindered by the general downturn in tourism in Zimbabwe. We can only hope that the political situation will stabilise allowing for a recovery in this relatively environmentally benign industry. However, whether or not stability is achieved, we will continue to press for new initiatives and to develop our thinking in response to changing economic and ecological problems.

Funding has been secured from Tusk and Siren for the employment of the Education Co-ordinator Bruce Lombardo for an additional year. This extended period of working alongside Environmental Education Officer, Wilton Nsimango, will help ensure the education programme is fully developed, tried and tested, and that training for the bushcamp manager, guides and educators is ongoing. The project hopes to raise funds for the free education program by attracting international school groups who would be charged a fee sufficient to fund more free schools.

The project founders are committed to remaining in the area, consolidating and building on work done there. PHDR and Tusk will be responsible for providing financial and logistical support to the CCEDP.

The downturn in tourism in Zimbabwe has seriously hindered the project's main source of income from 'volunteer' tourists, which means the project is more likely to need continued support in the form of grants and donations.

14. Value for money

The project is certainly value for money in the sense that in addition to the Community Conservation Education and Development Programme, the teacher's materials and curriculum support materials we have created significant additional outputs. No doubt much of the leverage of additional funding has resulted from the prestigious Darwin name being associated with this project.

Throughout the project we have attempted to use every penny as wisely as possible, knowing the value of cash in conservation. Even with horrendous inflation, pounds are still worth ten times in Zimbabwe what they are worth if spent in the UK.

Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	0	Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	0	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	0	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation	0	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	20	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	20	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.

12. Research and Training	20	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	40	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts	0	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources	0	Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
16. Access to and Transfer of Technology	0	Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information	0	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	0	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Total %	100%	Check % = total 100

Appendix II Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (←expand box)
Training Outputs		
1a	Number of people to submit PhD thesis	1 in progress
1b	Number of PhD qualifications obtained	0
2	Number of Masters qualifications obtained	1 in progress (this is an additional output)
3	Number of other qualifications obtained	0
4a	Number of undergraduate students receiving training	0
4b	Number of training weeks provided to undergraduate students	0
4c	Number of postgraduate students receiving training (not 1-3 above)	0
4d	Number of training weeks for postgraduate students	0
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(i.e not categories 1-4 above)	28
6a	Number of people receiving other forms of short-term education/training (i.e not categories 1-5 above)	5155
6b	Number of training weeks not leading to formal qualification	72
7	Number of types of training materials produced for use by host country(s)	<ol style="list-style-type: none"> 1. Bush Camp Teacher – Guide Training Manual 2. Bush Camp “Student Logbook” 3. Community Development Officer Educational Materials 4. Community awareness interpretation materials: Dog, cultural, environmental, natural, history
Research Outputs		
8	Number of weeks spent by UK project staff on project work in host country(s)	14 plus 4 pending
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	0
10	Number of formal documents produced to assist work related to species identification, classification and recording.	0

Code	Total to date (reduce box)	Detail (←expand box)
11a	Number of papers published or accepted for publication in peer reviewed journals	0
11b	Number of papers published or accepted for publication elsewhere	0
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	0
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	0
13a	Number of species reference collections established and handed over to host country(s)	0
13b	Number of species reference collections enhanced and handed over to host country(s)	0
Dissemination Outputs		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	6
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	6
15a	Number of national press releases or publicity articles in host country(s)	2
15b	Number of local press releases or publicity articles in host country(s)	3
15c	Number of national press releases or publicity articles in UK	2
15d	Number of local press releases or publicity articles in UK	1
16a	Number of issues of newsletters produced in the host country(s)	12
16b	Estimated circulation of each newsletter in the host country(s)	4,000 circulated – read by approximately 100,000
16c	Estimated circulation of each newsletter in the UK	1000, plus 6000 Tusk Talk magazines
17a	Number of dissemination networks established	26
17b	Number of dissemination networks enhanced or extended	6
18a	Number of national TV programmes/features in host country(s)	4
18b	Number of national TV programme/features in the UK	2
18c	Number of local TV programme/features in host country	0
18d	Number of local TV programme features in the UK	1
19a	Number of national radio interviews/features in host country(s)	8
19b	Number of national radio interviews/features in the UK	14

Code	Total to date (reduce box)	Detail (←expand box)
19c	Number of local radio interviews/features in host country (s)	22
19d	Number of local radio interviews/features in the UK	6
Physical Outputs		
20	Estimated value (£s) of physical assets handed over to host country(s)	£150,000
21	Number of permanent educational/training/research facilities or organisation established	<p>1. Painted Dog Conservation project will continue as a registered Private Voluntary Organization in Zimbabwe</p> <ul style="list-style-type: none"> • Children's Bush Camp Programme will continue • Community Outreach Programme will continue <p>2. Iganyana Bush Camp facility:</p> <ul style="list-style-type: none"> • 18 student huts • 4 teacher huts • Bush camp office • Student ablutions blocks • Teacher ablution block • Kitchen • Brai pavilion • Dining room • Activity deck • Bush camp walkway • Environmental Education Exclosure <p>3. EC Visitor Centre:</p> <ul style="list-style-type: none"> • Gift Shop • Educational Computer Lab • Painted Dog Interpretive Hall <p>4. Interpretive Walkway and Trail System</p>

Code	Total to date (reduce box)	Detail (←expand box)
22	Number of permanent field plots established	<ul style="list-style-type: none"> • Tree Survivorship Study Plot: trees within 20 metres of the fence, inside and outside the Painted Dog Enclosure, greater than 20 cm bdh, where tagged and monitored for the effect of elephant browsing on tree growth and survivorship. • Ongoing. More study plots are planned in order to monitor the effect of large browsers on teak woodlands community vegetation.
23	Value of additional resources raised for project	£150,000

Appendix III: Publications

Provide full details of all publications and material 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 that is currently being compiled.

Mark (*) all publications and other material that you have included with this report

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Guide Training Materials	1. Guide training workshop itinerary 2. Guide training syllabus 3. Guide teacher training	Siren Conservation Education	www.siren.org	Free
Teacher Guide Manual		Siren Conservation Education	www.siren.org	Free
Detailed Educational Information on Painted Dogs		Siren Conservation Education	www.siren.org	Free
Environmental Message Posters	13. Wood carving in Zimbabwe 14. Wood carving case study Kenya 15. Human predator co-existence 16. Human-wildlife co-existence a case study 17. Carnivores are key stone species 18. Carnivores endangered – a case study 19. Problems with small populations 20. Small populations – the science behind the problem 21. Snared! 22. Snared – a case study for community conservation 23. Why protect wild dogs – physical values 24. Why protect wild dogs – additional values	Siren Conservation Education	www.siren.org	Free

Bushcamp education programme materials		Siren Conservation Education	www.siren.org	Free
Bushcamp teacher support materials		Siren Conservation Education	www.siren.org	Free
Bushcamp teacher curriculum materials		Siren Conservation Education	www.siren.org	Free
Education Centre activities and materials		Siren Conservation Education	www.siren.org	Free
Teacher Support Materials		Siren Conservation Education	www.siren.org	Free
Painted Dog Storybook		Siren Conservation Education	www.siren.org	Free
Community Development educational materials	<ol style="list-style-type: none"> 1. summary of outreach 2. useful plant list 3. benefits of trees 4. effects of deforestation 5. managing and caring for fruit trees 6. sheet erosion 7. three ways to heal the soil 8. mulching 9. crop rotation 10. pests 11. pest control 12. useful plants for pest control 13. natural pest control 14. introduction to wildlife management 	Siren Conservation Education	www.siren.org	Free
		Siren Conservation Education	www.siren.org	Free

Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide contact details below.

Project Title	Painted Hunting Dog Conservation Through Education and Development
Ref. No.	162/11/00
UK Leader Details	Tusk Trust
Name	Charles Mayhew
Role within Darwin Project	Co Project Leader
Address	5 Townbridge House, High Street, Gillingham, Dorset, SP8 4AA
Phone	
Fax	
Email	
Other UK Contact (if relevant)	SIREN Conservation Education
Name	Dr. Sasha Norris
Role within Darwin Project	Co Project Leader
Address	47 East Avenue, Oxford, OX4 1XP
Phone	
Fax	
Email	
Partner 1	
Name	Greg Rasmussen
Organisation	Painted Dog Conservation
Role within Darwin Project	Local Project Co-Ordinator
Address	Umtshibi Camp, Private Bag 5776, Dete, Zimbabwe
Fax	
Email	
Partner 2 (if relevant)	
Name	
Organisation	
Role within Darwin Project	
Address	
Fax	
Email	