

**CONSERVATION STRATEGY**  
**FOR THE**  
**LONG-TERM SURVIVAL OF THE CHEETAH IN NAMIBIA**

**DR. LAURIE MARKER**  
**EXECUTIVE DIRECTOR**  
**CHEETAH CONSERVATION FUND**  
**P.O. BOX 1755**  
**OTJIWARONGO**  
**NAMIBIA**  
**PHONE: (264) 67 306 225**  
**FAX: (264) 67 306 247**  
**EMAIL: [cheeta@iafrica.com.na](mailto:cheeta@iafrica.com.na)**

**REPORTING PERIOD**  
**JANUARY THROUGH DECEMBER 2003**

## TABLE OF CONTENTS

	Page numbers
EXECUTIVE SUMMARY	3
I. INTRODUCTION	6
II. ORGANISATIONAL STRUCTURE	6
III. PROGRESS DURING REPORTING PERIOD: Jan-Dec 2003	7
A. Facility Developments	7
B. Research	7
1. Population Biology	8
2. Health and Reproduction	9
3. Cheetah Ecology	11
4. Ecosystem Research	11
C. Human Impacts	13
1. Livestock Guarding Dogs Programme	13
2. Contact with Farming Community	15
3. Large Carnivore Management Association	17
4. Waterberg Conservancy	17
5. Conservancy Association of Namibia (CANAM)	17
D. Education Activities	18
1. Schools and Community Education	18
2. Education and Training at CCF	22
3. Namibian Environmental Education Network (NEEN)	26
E. Eco-tourism	26
F. International Programmes	28
1. Cheetah Conservation Fund - Kenya	28
2. Iranian Cheetah Conservation	30
3. Botswana Training	30
4. Captive Cheetah Management – International Cheetah Studbook	30
G. CCF Organisational Activities	31
1. Development and International Fundraising	31
H. International Meetings and Conferences	33
1. Global Captive Cheetah Workshop	33
2. American Zoo Association Annual Felid TAG Meeting	34
3. PAAZAB	34
4. American Zoo Association Annual Conference	34
5. World Parks Congress (WPC)	34
6. Society for Conservation Biology	34
I. Media and Public Relations	34
J. Visitors to CCF	36
K. Volunteer Programme	36
L. CCF Staffing	37
IV. PLANNED ACTIVITIES	38
APPENDIX	40
Papers Published in 2003	40
Papers Submitted for Publication in 2003	40

## **EXECUTIVE SUMMARY**

2003 has been a year of change and intense activity at CCF. Facilities are continuously improved: Eleven captive cheetahs were moved to the new 64-ha holding pen, while rhino infrastructure has progressed significantly.

Collaborative biomedical research involved work on 121 cheetahs compared to 100 in 2002. Gastric biopsies on captive and wild cheetahs increased from 52 in 2002, to 75 during this reporting period, while the number of semen samples stored in the Genome Resource Bank grew from 59 to 108. Eight scientific papers have been published this year, while eight more were submitted. As of 31 December 2003, CCF is housing 26 non-releasable cheetahs, compared to 23 in 2002.

Data on the Namibian farmland ecosystem is growing, with 51 game counts held on CCF farms this year. In addition, CCF coordinated the annual Full Moon Waterhole Count through the Waterberg Conservancy. The CCF Bush plant, our bush encroachment initiative, is now nearly ready to begin production of bush logs, and a marketing consultant has begun work to market and sell the bush logs internationally.

Four litters of Anatolian Shepherd Livestock Guarding Dogs were placed this year: 14 on commercial farms and 20 on communal farms. One puppy was kept at CCF as a breeding bitch. All puppies were vaccinated and monitored on schedule, while adult livestock guarding dogs were monitored as needed. CCF is currently developing a GIS map highlighting the location of all placed Livestock Guarding Dogs.

CCF's model farm welcomed two students from the Neudamm Agricultural College for six-week internships, and closed the year with 31 more cattle heads, 12 more goats, and 45 more sheep, for a total of 284 cattle, 149 goats, and 193 sheep.

Contact with farming communities is key to CCF's programmes. In 2003, CCF attended or made presentations at approximately 10 farmers' associations and conservancy meetings, in addition to individual farm visits. CCF also participated in eight agricultural fairs. The issue of predator problems was addressed directly, and through newsletters and media articles. CCF also continued to play active roles in organisations such as the Large Carnivore Management Association (LCMAN), the Waterberg Conservancy, and the Conservancy Association of Namibia (CANAM).

Developing a national pride in the cheetah through community-based conservation education is another important element of CCF's programmes. In 2003, 14 school groups visited CCF's Centre and Museum for day programmes, compared to 10 in 2002. The number of schools that stayed at CCF's campsites increased to 14 in 2003, for a total of 517 learners. Similarly, CCF hosted youth groups on its campsites for a total of 109 youth. The number of visitors to the Education Centre remained high at approximately 2000 in 2003.

As the second half of the year brought a shift in CCF's education focus as less schools were visited during this period, resulting in a decrease in the number of students reached through school visits. In addition, a virtual tour of the Education Centre has been published on CCF's web page for further outreach, and a new Education Officer was hired in December.

In collaboration with UNAM, the Smithsonian Institution (SI) of Washington, DC, and the African Conservation Science Centre, the first Conservation Biology & Wildlife Management training course was held in January, for 19 course participants. Along these lines, an Environmental Education course in collaboration with SI, Environmental Education and Conservation Global, is being organised for January 2004.

A key activity during this period was CCF's participation in the Environmental Educators Association of Southern Africa (EEASA) Conference in June. At this conference, we held a workshop that dealt with developing and implementing predator conservation into the formal curriculum and non-formal education in Namibia and throughout the SADAC region. As a result, a curriculum was submitted and is currently being reviewed by a panel led by the National Institute for Education Development (NIED). Participation in other workshops includes a Teacher Training Workshop, a Peace Corps teacher's meeting, and a workshop to evaluate the effects of HIV/AIDS on conservation. CCF also helped to organise and instruct a Game Capture and Translocation Course in September.

CCF held its first course on *Integrated Livestock and Predator Management* for 42 participants. The course, organised in collaboration with RISE Namibia, was intended for communal conservancy members, and extension officers of the Ministry of Environment and Tourism (MET). Because of the positive feedback, a manual based on the course topics is being compiled. The document will be printed in English and Afrikaans, and will be distributed to communal farmers, as well as to conservation and agricultural students.

Several Namibian and international students have conducted their research and in-service training at CCF. In addition, two CCF staff members graduated with a B-Tech from Polytechnic of Namibia as well as two students that completed their 6-month in-service training from the same institution, and two other staff members are working towards their Master's Degrees. CCF is also working with a Master's student from University of Natal. Training was provided at CCF for University of Namibia students, as well as students from Round River Conservation Studies, and three students from University of Oregon's Global Graduates programme.

As a member of the Otjiwarongo Tourism Forum, CCF is playing a key role in eco-tourism and the promotion of Otjiwarongo as the "Cheetah Capital of the World." The Forum is now in the process of publishing a business directory to attract investors to Otjiwarongo. CCF continues to host international visitors from renowned organisations around the world, and encourages them to stay within the Waterberg Conservancy.

CCF's research and conservation programme in Kenya has continued to lay solid groundwork in research, education and outreach of conservation of cheetahs and their habitat. In 2003, CCF Kenya conducted programmes in 24 schools, and made 16 presentations to tourists on the Great Cheetah Census campaign. In July, CCF Kenya hosted a workshop for 40 experts and supporters of cheetah conservation, with a follow up meeting in December.

CCF also continues to work closely with individuals and organisations worldwide, and in particular with groups in Iran, Botswana and South Africa on cheetah conservation.

Our fifth annual fundraising dinner and silent auction in Windhoek attracted 300 guests. The Namibian Prime Minister, Hon. Theo-Ben Gurirab, was the guest of honour, while Dr. Patrick Bergin, President & CEO of the African Wildlife Foundation, acted as the key note speaker.

CCF's Director travelled to the US three times this year to deal with CCF USA business, as well as for fundraising and lectures. Her fall tour, which also included Canada, covered 25 cities, with some 30 well-attended lectures and ample media coverage. While the US continues to be the major source of funds for CCF, efforts continue through CCF UK, CCF Canada, and Cheetah OutReach in South Africa.

The Director also attended five important international meetings and conferences, including the American Zoo Association (AZA) Annual Conference, and the World Parks Congress (WPC) in South Africa. The WPC is held once every 10 years, and Laurie was involved in the development of a new task force that deals with Human-Wildlife Conflict.

CCF's Public Relations efforts resulted in significant media coverage and feature articles internationally and in Namibia. Three film crews visited CCF in 2003, including one led by Jack Hannah of the Columbus Zoo and Busch Gardens, and another one by Peter Gros. Peter Gros is hosting an Animal Planet's Mutual of Omaha Special on Cheetahs of Namibia, filmed at CCF for several weeks in 2003 and scheduled to air in March 2004.

Volunteers continue to lend their expertise to CCF, either through EarthWatch, Raleigh International, or CCF's own Volunteer Programme. In 2003, 43 EarthWatch volunteers, 100 Raleigh team members, and 41 CCF volunteers were welcomed at CCF, including students, and professionals in animal or veterinary care, as well as various business fields.

At the end of 2003, CCF professional staff consists of 18 members, including two based in Kenya, as well as a veterinary technician and a reproductive physiologist sponsored by White Oak Conservation Center and the Smithsonian Institution, respectively. CCF also employs 19 farm and domestic workers.

## **I. INTRODUCTION**

The Cheetah Conservation Fund (CCF), founded in 1990, has as its mission “to be an internationally recognised centre of excellence in research and education on cheetahs and their eco-systems, working with all stakeholders to achieve best practice in the conservation and management of the world’s cheetahs”. CCF undertakes basic research regarding cheetah and their habitat; maintains a major public education programme and creates and disseminates education materials worldwide; conducts programmes of community upliftment and predator conflict resolution; assists in the management of captive and free-ranging cheetah throughout the world; and publishes scientific papers on its research findings.

CCF's base of operations is in Namibia, which has the largest and one of the few sustainable populations of free-ranging cheetah in the world. The cheetah's survival depends on a total ecological system of farmland management, prey species management, and habitat stability. CCF's Namibian focus is to work with livestock farming communities in order to develop ways to reduce conflict. This is achieved by devising a conservation plan that secures habitat for the species, while still accommodating farmers' land use needs.

CCF carries out scientific research programmes in areas such as cheetah population biology, cheetah ecology, cheetah health and reproduction and human impacts on the cheetah. CCF researchers develop, test, and promote alternative land management practices such as conservancy development, non-lethal predator control, relocation of problem cheetahs, and eco-tourism. Additionally, CCF conducts both Namibian and international education programmes to raise awareness of the cheetah's endangered status. These illustrate ways in which the species can be protected and encourages worldwide support.

## **II. ORGANISATIONAL STRUCTURE**

The Cheetah Conservation Fund is an international organisation with registered organisations in Namibia, the United States, Canada and the United Kingdom. In 1991 CCF became a Namibian Voluntary Trust, with a Namibian Board of Directors comprised of leaders in the local community, business, agricultural and government sectors. In 2002, the Namibian Board completed the registration of the Cheetah Conservation Fund as a not-for-profit Section 21 Company, while CCF Canada registered as a charity in that country. Additionally, there is an International Science Advisory Board that assists in planning and advising on research projects. CCF's Executive Director is assisted in the management and operations of CCF by a core professional staff, short-term volunteers, and students.

CCF's International Research and Education Centre is the base for all CCF's activities. The Centre is located near Otjiwarongo, Namibia on the farms Elandsvreugde, Osonanga, Boskop (Khayam's Kopje), Cheetah View, Bellebenno, and Janhelpman, totalling 39,000 hectares. The farm base is in prime cheetah habitat and a wildlife friendly area, with

neighbouring farmers who believe in conservation ethics. This ensures a large prey population, which is important for the cheetah population.

CCF is an active member of the Waterberg Conservancy, which encompasses over 200,000 hectares of private farmland surrounding the Waterberg Plateau Park - a national game park dedicated to rare and endangered species. The Conservancy's farmers cooperatively manage the Conservancy's wildlife for long-term sustainability. This in turn provides habitat and prey base for the cheetah.

### **III. PROGRESS DURING REPORTING PERIOD: January – December 2003**

#### **A. Facility Developments**

CCF developed and finished a new holding pen for captive cheetahs on the farm Bellebenno, where 11 non-releasable female cheetahs were moved. This pen was developed to allow more space for captive cheetahs and conform to the new government specifications on size, which is one hectare per cheetah, and Raleigh International assisted in the construction of the handling and feeding enclosures attached to the 64- hectare facility.

In the first half of 2003, a fence line was been laid out, and bush cleared for a perimeter fence that will enclose approximately 14,000 ha for a rhino fence. With the support of a grant from Bush Gardens, Raleigh International worked on the rhino sanctuary infrastructure. They built two natural water holes, and made improvements to a building that will serve as an anti-poaching patrol post. Raleigh also renovated two workers' houses during this reporting period.

#### **B. Research**

CCF staff conducts field research to gather data on distribution, behaviour, biology, demographics, livestock/cheetah interactions, and health of cheetahs. Farmers participate in the research through live capture of cheetah on their farms, assist in collecting biological samples and measurements, ear tagging, and release. They also report on other cheetah/livestock interactions.

CCF staff, assisted by volunteers, work directly with farmers on cheetah issues and collaborates with other researchers and institutions from the United States, Europe, Namibia and South Africa. This collaboration has allowed experts in genetics, reproduction, veterinary medicine, pathology and conservation to work with CCF thus expanding the use of this valuable data.

An extensive database has been developed, with new data continually being added. All samples are meticulously stored and serve as a reference database for future studies.

Eight papers were published during this period, including one in the *Journal of Mammalogy*, titled Morphology, Physical Condition and Growth of the Cheetah and two

by *Biological Conservation* titled Aspects of the management of cheetahs, *Acinonyx jubatus jubatus*, trapped on Namibian farmlands and Demography of the Namibian cheetah, *Acinonyx jubatus jubatus*. Eight more papers were submitted for publication, including Evaluating the effectiveness of livestock guarding dogs as a method of conflict resolution to the *Journal of Rangeland Management*. For a full list of papers, see the appendix at the end of this report.

Dr. Laurie Marker worked with Drs. Warren Johnson and Steve O'Brien on a genetics paper entitled: Patterns of molecular genetic variation in Namibian cheetah that will be submitted for publication in 2004, and with other authors on several other papers including: Factors affecting leopard (*Panthera pardus*) spatial ecology, with particular reference to Namibian farmlands; Factors influencing the spatial distribution of cheetahs (*Acinonyx jubatus*) on north-central Namibian farmlands; Notes on the spatial ecology of caracals (*Felis caracal*), with particular reference to Namibian farmlands; Conserving large carnivores outside protected areas: using the Namibian cheetah *Acinonyx jubatus jubatus* as a case study.

## **1. Population Biology**

Between 1 January and 31 December 2003, CCF worked on 121 (76M, 44F, 1UNK) cheetahs. Of these, 29 (21 M, 8 F) were tagged and released back into the wild, 83 (52M, 30F, 1UNK) were captive animals receiving annual physical examinations at CCF and other captive facilities in Namibia, and 9 (4 M, 5 F, 1UNK) were necropsies. Two wild female cheetahs caught in a game farm near Gobabis are now in holding, and are due to be released pending recovery from a tendon injury that occurred to one of them in the trap cage.

One interesting case refers to two male cheetahs caught at a play tree. One of the cheetahs had an old injury to its knee, restricting movement to the leg, and may not have survived without its brother. Since both cheetahs were in excellent condition otherwise, and no confirmed losses of livestock to cheetahs were reported, the decision was made to tag and release both of them.

Five four-month-old cheetahs (2M 3F) were unable to be released. Three (1M 2F) were confiscated from a tourist show farm where they had been for two months. All three were showing severe signs of calcium deficiency, with hip, humerus, and anklebone fractures. All three are responding well to supplements however, two underwent orthopaedic surgery to correct the damage. The other two (1M 1F) were caught a month after their mother was shot for attacking a farm worker; she tested positive for rabies. Two cubs were emaciated when caught, and now are in quarantine and recovering well. A third cub died at the veterinary office the day of pick up by CCF from severe pleurisy and pneumonia.



One other cheetah also died in holding just a few days after arriving at CCF due to pleurisy. This cheetah was captured on a farm without a family and was too young to be on her own.

During 2003, one female and five young male cheetahs were placed on loan at Amani Lodge, where they are housed in a 10-hectare enclosure for tourism purposes. Another resident male was loaned to Aloegrove Safari Lodge.

CCF now houses 26 cheetahs versus 23 cheetahs at the end of 2002.

## **2. Health and Reproduction**

In January, veterinary technician Jane Fink left CCF after her year of service, and was replaced by veterinary technician Audrey Pickup. Like Jane, Audrey is supported by White Oak Conservation Centre, and has worked in training Namibian students.

Of the 83 captive cheetahs worked on, 22 exams were performed at AfriCat, seven at Naua Naua, two at Aloegrove, one at Auas Game Lodge, and the remaining 51 at CCF.

### 2.1 Health Issues – Gastritis

Collaborative research continues with Drs. Linda Munson and Karen Terio, from the University of California Davis, investigating faecal cortisol levels in relation to the effects of stress on captive and wild cheetahs and the levels of gastritis in captive and free-ranging cheetahs.

Between 1 January and 31 December 2003, a total of 75 gastric biopsies were collected. Of those, 39 were collected on resident cheetahs, 20 were collected on free-ranging cheetahs that were tagged-and-released, and 16 were collected on captive cheetahs at other facilities. Dr. Arthur Bagot-Smith and Dr. Mark Jago carried out the majority of the endoscopies.

In June, one of CCF's non-releasable cheetahs began exhibiting health problems, vomiting, loss of appetite and lethargy. After de-worming and antibiotic treatments, she showed no improvement. She was transported to the Otjiwarongo Veterinary Clinic where a laparotomy concluded that she was suffering from a pyloric stenosis, an abnormal narrowing of the pylorus, which obstructs the flow of food from the stomach to the small intestine. Surgery was performed and she has made a full recovery.

### 2.2 Necropsies

Necropsies enable, thorough examination and collection of internal organs and tissues, to facilitate certain studies on overall health and diseases that would not otherwise be possible. Therefore, CCF asks to have access to dead cheetahs, whether as a result of trophy hunting, hit by cars, or shot by farmers.

Among the nine necropsies performed during the year, one cheetah was a resident at CCF that arrived in October 2002. She had a chronic foot injury that would not heal and was subsequently euthanised. There was a male shot for suspected calf predation, and a female cheetah shot by a 15-year-old farmer's son after one calf had been lost to predation by cheetah. Unfortunately, there were at least four cubs seen with her when she was shot, from the description provided by the boy, they were too young to survive on their own. Subsequent attempts by the farmer to capture the cubs have failed and their fate remains unknown.

### 2.3 Reproduction

Between 1 January and 31 December, Dr. Adrienne Crosier, a Post-Doctoral Reproductive Physiologist with the Smithsonian's National Zoological Park, in collaboration with CCF's Science Advisory Board member, Dr. David Wildt, worked on expanding CCF's Genome Resource Bank (GRB) and training CCF staff and UNAM Master's student, Josephine Henghali, in the basics of semen collection and processing, and evaluation of vaginal cytology samples.

Working with Dr. Mark Jago, the CCF team travelled to AfriCat/Okonjima, Naua Naua Game Lodge, and Alogrove Safari Lodge in Namibia to conduct a total of 19 reproductive examinations on captive male cheetahs and lions. In addition, working with Dr. Ulf Tubbesing and CCF staff, she travelled to Auas Game Lodge to conduct semen collections on two captive cheetahs.

During 2003, Dr. Crosier and CCF staff conducted a total of 76 semen collections on cheetahs and lions. This includes 32 CCF resident male cheetahs, 17 captive male cheetahs in other facilities, 20 wild-caught cheetahs, five lions residing at two nearby farms, one leopard, and one aardwolf.

Resulting from these collections, a total of 49 sperm samples were frozen for storage in the CCF Genome Resource Bank, which now contains a total of 108 sperm samples: 80 samples from captive cheetahs, 22 samples from recently wild-caught cheetahs, 3 samples from captive lions, 2 leopards and 1 aardwolf. These collections also provide information on the effects of diet, age, season, and repeat collection on cheetah semen quality.

During the first half of 2003, a total of 23 sperm samples were collected and analysed for the Cheetah Glycerol Toxicity Cryopreservation Study. The study examined the effects of adding antioxidants on cheetah sperm post-thaw quality. The manuscript entitled Effect of Glycerol Exposure and Temperature at Glycerol Addition on Cheetah (*Acinonyx jubatus*) Sperm Cryopreservation has been written and is awaiting final edits before submission for publication. Dr. Crosier also started data analysis and manuscript preparation for the study examining Cheetah (*Acinonyx jubatus*) Seminal Quality.

Finally, Dr. Crosier submitted a research and training grant to the National Science Foundation entitled Sperm Cryobiology in the Namibian Cheetah (*Acinonyx jubatus*) in collaboration with the Cheetah Conservation Fund.

### **3. Cheetah Ecology**

CCF ceased its current radio-tracking programme this year. The programme was started in 1993 and represents one of the longest ongoing radio-tracking programmes of cheetahs. The results of this programme, that encompassed a study area of 17,928 km<sup>2</sup> and 42 radio-collared cheetahs, would not have been possible without the assistance and participation of Namibia's farmers. The paper entitled Factors influencing the spatial distribution of cheetahs (*Acinonyx jubatus*) on north-central Namibian farmlands on CCF's radio tracking is being finalised for submission for publication. Further evaluations will determine where and how future studies will be conducted.

### **4. Ecosystem Research**

Assessment of the Namibian farmland ecosystem for long-term habitat viability for the cheetah and its prey is a part of CCF's on-going research. The farmlands support a rich prey base, as 70% of the country's game inhabits these areas. CCF assesses the farmland ecosystem and monitors the wildlife prey base available to predators in CCF's primary research area.

#### **4.1 Game Monitoring and Prey Habitat Preferences**

To assist in developing a game-monitoring programme for the Waterberg Conservancy, CCF continued ongoing wildlife monitoring on its farms, designed to understand patterns and trends of game density, movement, demographics, and habitat utilisation.

EarthWatch volunteers assist with this research on a monthly basis. Monitoring involves visual road counts, tracking and counting spoor, categorizing vegetation, densities and distribution, and soil analysis. CCF also monitors weather patterns such as rainfall, temperature, and correlates these with its ecological research.

Data collected since 1995 has been analysed and a final manuscript entitled Assessing Ecological Impacts of Bush Encroachment on Namibian Farmlands has been submitted to the Journal of African Ecology for publication.

A total of 51 game counts were conducted during this reporting period, and all data was entered into the database, in addition to the annual Full Moon Waterhole Count. Additionally, CCF conducted eleven spoor-tracking surveys, all of which have been entered onto the database. A Master's student from the Ministry of Environment (MET) has been working with CCF's director on analyzing the spoor count data from 1995 to 2003.

#### 4.2 Full Moon Waterhole Count

The August 2002 Waterberg Conservancy Full Moon Waterhole Count results were completed by Ezequiel Fabiano, CCF intern from UNAM. CCF staff worked with Conservancy members to plan the 2003 Waterhole Count held on 12–13 July 2003. CCF was responsible for conducting participants' orientation, preparing record sheets and identification guides and transporting counters between Otjiwarongo and CCF, as well as placing counters at most waterholes. About 70 counters participated in the waterhole counts consisting of youth volunteers, EarthWatch volunteers, Waterberg Conservancy workers, Daktari farm students, and CCF staff.

Prior to the Full Moon Waterhole Counts, CCF conducted at least six replicate strip counts around all of its farms. These consisted of three counts before the waterhole counts, and three after the waterhole counts. The results of the strip counts were analysed, and will be compared with the waterhole count results.

#### 4.3 Giraffe Identification and Census

There is a population of approximately 35 giraffe on the CCF game farm, Bellebenno. CCF staff and volunteers began conducting a giraffe census and identification project. A giraffe identification booklet was created, using photos and identifying markings and is being updated as identification continues. The long-term goal will be to habituate the giraffe for eco-tourism and begin to understand the herd dynamics and population structure. Over time, CCF is looking at releasing some of these giraffe onto their farm within the Waterberg Conservancy.

#### 4.4 Bush Encroachment Bio-diversity Studies

Harvesting of thickened bush progresses by the efforts of CCF Bush employees. By August a team of 10 harvesters and chippers had been employed.

One of CCF's Research Assistants has begun her wood use surveys in the North as a part of her Master's degree.

To ascertain reliable methods and conditions for drying wood chip, CCF conducted mini surveys to estimate the moisture content for the chipped wood at CCF. Results obtained indicated moisture content of about 7 % – 8 %. These results are likely to be affected by factors such as rainfall, and relative humidity of the atmosphere. Future experiments link with the Ministry of Agriculture laboratories.

An assessment for biomass estimates, woody species, and density was conducted during January within the CCF economic plots. In addition, bird surveys were conducted at CCF's farm Cheetah View, and CCF economic plots by a bush team consisting of Maija Nghikembua, and Salmo Djuulume. Preliminary reports for the bird surveys and bush were compiled. In addition, we also demarcated the sample areas by means of a GPS, and

metal posts for future reference purposes. CCF's Bush Project director met with the Energy Directorate of Mines and Energy to discuss biomass initiatives, and with a multi-ministry group trying to reform and broaden the charcoal industry.

In addition to our own research staff evaluating areas, we have met with the Research Director and Acting Director of Forestry, and have requested that their teams verify our findings.

Our revised variable costs sheets indicate that we will need about 60 tons of harvested bush per day of log production in the plant. At the Namibian guesstimate (yet to be verified) of 10 tons per hectare, that means harvesting 6 hectares per day. For job-creation purposes this is good news. It would require about 30 harvesters if done all manually.

A USA-made chipper arrived in August and the chipping team began scaling up both harvesting and chipping dramatically. Prior to the American chipper, we made some progress using the less expensive South African model and believe we can eventually lease that out to an entrepreneur.

During the past six months, a building in Otjiwarongo has been leased and the bush log process plant has been fabricated using locally trained welders and equipment purchased from South Africa. The installation of the necessary electrical transformer was completed in December. We are still in discussions with the municipality of Otjiwarongo for registration as a manufacturing facility; this will be complete after the plant is in operations. A marketing consultant will join the CCF Bush team in January to develop the sales and marketing plan.

We currently employ 14 Namibians for the bush project.

### **C. Human Impacts**

Livestock loss to cheetahs is an economic and emotional issue. While farmers perceive cheetahs as having an excessive economic impact on their livestock and wild game industries, many Namibian farmers have done little, from a management perspective, to alleviate their problems in a non-lethal manner. By addressing the farmer's conflicts with predators, CCF is devising a conservation and management strategy that benefits both humans and cheetahs, thus ensuring the species' survival on livestock farms. Over the years, CCF has seen greater awareness and better farm practices.

#### **1. Livestock Guarding Dogs Programme**

CCF's Livestock Guarding Dog programme (LSGD) has continued to grow with 119 Anatolian Shepherds working with livestock on both communal and commercial farms through December 2003. Anatolian Shepherds provide a method of non-lethal predator control that protects the farmer's livelihood, while conserving predator species. The dogs

are monitored by CCF in a bi-annual evaluation, and monthly for puppies during the first six months.

### 1.1 Puppy Placements

Since 1994, over 200 Anatolian Shepherds have been placed as livestock guardians. A total of 34 puppies were placed during 2003: 15 from two litters born in December 2002, and 19 from litters born in June and September 2003. A total of 20 puppies went to communal farms, while 14 were placed as commercial dogs. Of the commercial dogs, one will be placed as a breeding bitch in Karasburg, in the south of the country. In addition, CCF kept one as a breeding bitch. All other puppies were sterilised and given their first vaccinations at the age of eight weeks prior to being placed.

### 1.2 Follow Up on Prior Placements

CCF vaccinates and checks up on puppies placed on communal farms at 12 weeks of age, while commercial puppies are followed up with telephonic progress reports at 3 and 6 months of age, or randomly when necessary.

During 2003, CCF's Mandy Schumann made commercial farm visits to follow up on some placements, while telephonic progress calls were made throughout the year.

As for communal farms, CCF staff performed 11 checks on adult dogs, and completed vaccinations and check ups on 24 puppies. CCF supports the medical costs of dogs living on communal farmlands. In addition, CCF was requested to collect a 6-month old dog from a communal farm in Okakarara. The dog had tick fever, was treated at CCF, and returned to the farm after about one week.

It should be noted that, while the demand for Anatolian Shepherds in communal areas is on the rise, a lot of effort is needed to encourage farmers to care properly for their guarding animals throughout their lives to yield good results. This includes proper feeding and nutrition.

A total of ten dogs were returned to CCF or taken from their owners due to negligence or ill treatment. Five of these were successfully re-homed, one was transferred ownership but remained at the same farm, while four were unsuitable as working dogs, and were placed as pets. A further seven dogs were reported to have died.

### 1.3 Collaboration with Other Breeders

In January 2003, CCF obtained a new male puppy from a breeder in South Africa that will be used as a new breeding male. This puppy is being raised with CCF's goatherd.

### 1.4 Donations

Science Veterinary Diet continues to donate a 2 kg bag of puppy food and a bowl for every puppy placed. CCF's director recently discussed the donation of all dog food for the LSGD programme with IAMS Dog Food Company when she was in the US. Negotiations will continue.

### 1.5 CCF's Farm - Livestock and Dogs

CCF's farm provides the opportunity to practice and experiment with optimum methods of livestock and farming management practices, and one of CCF's farms is an active cattle and small stock farm. In addition, one farm is used for grazing donkeys that are used as feed CCF's non-releasable cheetahs. CCF has two major small stock herds (goats and sheep) each with breeding groups of Livestock Guarding Dogs.

During January, two students from the Neudamm Agricultural College underwent a training programme on CCF's model farm to learn about farm management practices, including non-lethal predator control. The students also assisted with CCF Bush project research.

At the end of this reporting period, CCF farming operations had, in total, 248 sheep, 159 goats, and 284 cattle. In addition, five horses and five donkeys are being used for farm work.

### 1.6 CCF LSGD GIS Map

CCF's Matti Nghikembua is developing a GIS map for the past and current location for all LSGD placements on the communal and commercial farms in Namibia. The GIS map will highlight their current locations, as well as areas where dogs were relocated, or where they died. We expect to complete the map by the early 2004.

## **2. Contact with Farming Communities**

This year Agricultural shows were attended by CCF in both the communal and commercial farming areas. CCF was represented at the following shows: Otjinene, Talismanus, Okondjatu, Okamatapati, Gobabis, Grootfontein, Otjiwarongo and Windhoek. These shows present an ideal opportunity to raise conservation awareness and promote good livestock management. During these several day shows, CCF staff talked with hundreds of Namibians.

Between 1 January and 31 December, CCF staff made presentations to commercial farmers' associations at Omitara and Okahandja, and attended Platveld meetings, of which CCF is a member. In September, CCF presented talks to members of a commercial conservancy, Swakoptal, concerning Predator Friendly Beef.

CCF visited the northwestern and western communal areas following requests for help with predator problems from communal farmers in these areas. The Elephant Corner conservancy is investigating alternative solutions to predator conflict, with particular

reference to the cheetah, and has included predator conservation in their conservancy mandate. However, in order to promote tolerance of the cheetah by the community, livestock conflict issues need to be addressed.

CCF's Community Development Officer spent several days in one of the communal areas in the Grootberg area, and conducted a survey. The survey looked at livestock and predator management issues as well as the farmers' attitudes towards wildlife in the area.

CCF's Fanuel Ekondo conducted a survey in 2 of the 4 emerging communal conservancies in the eastern communal land (Otjozondjupa region). The duration of the survey was 10 days and 45 villages were visited in the Okondjatu and Okakarara districts. The survey looked at livestock and predator management issues as well as the farmers' attitudes towards wildlife in the area. This survey was the basis of Fanuel's B-Tech thesis.

Staff also addressed communal farmers in Uis in the southwest, as well as the Khorixas area and to MET extension officers. The talks provided a brief outline of CCF's research work and also focussed on the correct identification of predators causing problems as well as various solutions including livestock management practices and non-lethal predator control that can help reduce losses.

Predator conflict and solutions were discussed at length during these meetings, resulting in a request for a training workshop for the community game guards, known as shepherds. Although appointed as game guards, these members of the community have no training concerning identifying the culprits of livestock predation, tracking, and livestock management. In collaboration with ex-CCF employee, Don Muroa, now working at RISE (an NGO working with communal conservancies in the area), CCF organised a workshop at the end of July for 42 participants from communal conservancies.

Independent farm visits were carried out to farmers who had not caught cheetahs but who were experiencing predator problems with livestock or game. This provided the opportunity to discuss various cheetah and livestock issues with the farmers concerned. In one case the calf losses proved to be from leopard and not cheetahs as the farmer suspected, while it appeared that a cheetah had caught some goats.

CCF staff continued to deal with multiple calls from farmers looking for information and discussing predator problems. Packages consisting of articles on problem animals, the newsletter, and the book published by CCF are sent to all farmers contacting CCF. In many cases farmers were put into contact with other farmers to share information on the use of donkeys to protect cattle, in particular.

Through direct contact with individuals, farmer association meetings, and a bi-annual Farmer's Newsletter, CCF informs the community of its progress and encourages it to remain actively involved in all aspects of its programmes. All farmers CCF deals with



are given a copy of CCF's book entitled *Cheetah Survival on Namibian Farmlands*, which has been published in both English and Afrikaans.

During 2003, newsletters were produced in February and September and mailed to over 3,000 people in Namibia, and about 800 internationally, updating them on CCF's activities and research findings. Numerous articles were written for the press, Agriforum and Outjo Extension Newsletter; the Outjo articles were translated into Afrikaans by CCF staff. A press release issued by CCF on this year's calving season gave way to an interview with Namibian national radio and an interview with NBC TV.

### **3. Large Carnivore Management Association (LCMAN)**

CCF staff regularly attends LCMAN meetings. During 2003, CCF hosted August meeting. The Group consists of members from the Ministry of Environment and Tourism (MET), NGOs, farmers, and veterinarians concerned with carnivore conservation. Issues that have been dealt with include legislation on carnivores, captive holding, the value of live animal exhibits at agricultural shows, trophy hunting, and guidelines for animal use in the film industry. CCF's Bonnie Schumann was re-elected as the Association's Secretary for 2003.

### **4. Waterberg Conservancy**

CCF remains active in the Waterberg Conservancy and hosted the Conservancy's AGM. CCF's Dr. Laurie Marker was elected as the ecology representative for the group, and coordinates the data collection from the 24-hour full moon waterhole count. CCF continues to promote and support eco-tourism within the Conservancy.

During the year, the Conservancy addressed the possibility of creating a sub-division for the East and West areas. In addition, CCF has been working with MET to develop a Rhino Sanctuary. A group from MET's Rhino Custodianships programme visited CCF's lands to evaluate it for holding rhinos, and recommended that CCF become a Rhino Custodian.

### **5. Conservancy Association of Namibia (CANAM)**

CANAM is an umbrella body for the promotion of conservancies in Namibia. Conservancies encourage sustainable utilisation of natural resources through co-operative management, based on sound conservation principles. During 2003, Dr. Marker attended 4 Ex-Com meetings serving as the Vice-Chair of CANAM, and at the AGM in May she was elected as the new Chairwoman of CANAM.

At the AGM, CCF made two presentations; the first was about CANAM joining CCF towards the promotion of 'Predator Friendly Beef' (Cheetah Country Beef) that would be marketed with a price premium. CANAM agreed to work in partnership towards the goals of developing this programme. As a result, a meeting was held with CANAM Ex-Com and members of Meat-Co on this programme.

The second presentation at the AGM was to present an idea as to how to promote conservation and land use on a national level. In general, CANAM was willing to have CCF investigate the idea with other conservation organisations throughout the country. Both the Predator Friendly Beef, and the conservation initiatives will be a focus for CANAM during the next year.

CCF director lead a vision workshop for CANAM in November to identify CANAM's goals for the future. This led to another meeting that was held in December, to bring stakeholders together to discuss the commercial conservancy working closer with the communal conservancies. This meeting had as a basis to bring together a working group to promote conservation and land use on a national level.

Conservancies and their wildlife management techniques will continue to be extremely important for long-term cheetah conservation. CANAM continues to grow and the new executive committee appears active and committed to seeing the organisation grow.

#### **D. Education Activities**

Public education and the development of an active grassroots constituency are integral components of CCF's overall cheetah conservation programme. CCF is educating farmers, teachers and the public about the need and methods to conserve Namibia's rich biodiversity, and the role of the cheetah and other predators in healthy ecosystems. Public education and the development of national pride in the cheetah are critical to its survival.

#### **1. Schools and Community Education**

Between 1 January and 31 December, over 9000 people attended a CCF educational programme, either at the Centre or through outreach programmes. This number includes learners, teachers, youth group members and day visitors.

##### **1.1 Education Outreach**

During the first half of 2003, CCF talked to over 5700 students and 70 principals and teachers in schools in Windhoek, and throughout the Erongo and Khomas regions, for a total of 40 presentations. The second half of 2003 brought a shift in focus and needs, and therefore education outreach programmes in schools decreased. During this time, CCF reached approximately 680 children, and 30 teachers and scout leaders during two important educational events.

Students were generally excited to take part in CCF's programme, and the demand for presentations at schools continues to increase, especially in rural areas. Interestingly, in rural schools Afrikaans was preferred to English. While several other Namibian languages are used, CCF will continue to teach mostly in English. To this end, two

student activity books were finalised with Cincinnati Zoo and will be published for use in 2004 school programmes.

In July, CCF was invited to take part in the Khorixas Region Science Fair held at the Westside High School in Swakopmund. The Fair was attended by 590 learners. CCF staff participated in the jury panel for Biology and Marine projects for grades 1–5 students. Learners from different schools from the Khorixas Educational Region exhibited their projects that day. Learners entered different categories such as Biology, Mathematics, and Water. CCF also put up a stand to showcase its programmes.

In August, CCF and the Namibian Environmental Educators Network (NEEN) assisted the National Scouting Movement in presenting Environmental Conservation activities at their National Scout Camp. The scouts were divided in different groups, and each group collected samples of plants and animals. The samples produced an inventory of the biodiversity found on the farm. The event presented CCF with a unique opportunity to meet and communicate with 92 children in a conservation setting outside CCF. At the same time, CCF was able to meet nearly 30 scouting representatives and teachers from around the country, and to convey its conservation message to non-formal environmental education organisations.

### 1.2 CCF's Field Research and Education Centre

CCF's Field Research and Education Centre continues to receive visitors from schools, regional youth groups, youth officials, tourists, teachers, health officials, farmers, conservation and agriculture extension officials, students and the general public.

The Centre provides on-site public education and student training to local students of all ages, and Namibian and foreign university students. It allows students to be exposed to CCF's integrated research programmes on the cheetah's ecology, habitat and prey base, and the demonstration of CCF's non-lethal livestock/predator management techniques. Participants are exposed to the issues affecting the survival of the cheetah by participating in various interactive activities and presentations, and to factors that affect conservation efforts at community level.

On average, CCF's Centre had two to three groups of visitors each day, totalling nearly 1900 visitors during 2003. The majority of the day visitors were from the European Union and South Africa; however, more Namibians appear to be visiting CCF. Visitors are highly impressed by CCF.

Among those visiting the Centre were 39 soldiers from the Ministry of Defence's Otjiwarongo Military Base. This was a significant visit for both the soldiers and CCF. Also, 15 students from the Polytechnic of Namibia's Nature conservation department were hosted for a day visit.

Finally, CCF published a virtual tour of its Research and Education Centre on its web page.

### 1.3 Youth Forums and Schools

Organised education programmes at CCF are designed mainly for groups accommodated at the either CCF's Wilderness Camp or tented Camp Lightfoot. CCF hosts school and community groups, exposing them to different environmental education activities including a Nature Trail, team building activities, games, and other environmental awareness activities. Groups usually spend two nights with CCF. All participants are exposed to CCF research and conservation efforts by presentations, and to the Namibian farmland ecosystem through the nature trail. Team-building activities are designed to highlight the importance of team efforts in conservation. Role-play and drama are also included in the programmes and include scenarios of livestock and predator management.

Between 1 January and 31 December 2003, 14 school groups stayed at CCF's campsites, and 5 youth groups. A total number of 517 learners and 109 out-of-school youth took part in these 3-day Centre-based programmes coming from throughout Namibia, including Khorixas, Otjiwarongo, Oshakati, Usakos, Windhoek, Outjo, Walvis Bay, Gobabis, Kalkfeld, and Swakopmund. In addition to this a school from Australia stayed at CCF for 4 days in September to learn and also helped with several work projects around the Centre. All overnight groups were accommodated at Light Foot campsite. In addition, 14 schools visited CCF on site for day visits.

The learners, youth, teachers and youth officials that have visited give positive feedback about their stay at the Centre. Many of the visiting youth report that their visit at CCF is not only their first opportunity to see wildlife, but their first trip outside their village and towns. For other youth members, who came from farms with high predator populations, CCF's education programme provides another perspective on the reality of farmland predators, as they often see cheetah and leopards, but mostly perceive them negatively. During a CCF visit, youth see the cheetah in a more positive situation and as the predators that are trying to survive in a difficult and limited habitat.

One key objective of the youth forum visits is to see how various activities can be coordinated and how they can contribute to environmental conservation. Apart from being exposed to CCF programmes and presentations, the youth are also asked to identify local and regional environmental problems, their causes and effects. Issues identified by the groups that affect conservation development include lack of commitment by youth and inadequate support from local businesses, community, and authorities.

One of the greatest challenges CCF faces is assisting groups to obtain funding to visit the CCF Centre. Although the Centre is free of charge to student groups, it is unable to provide transport or food for the groups. Even this extra cost is difficult for many youth and school groups to obtain due to their limited access to funding. The need for increased transport funding is vital to make the Centre accessible to more farmers and youth in Namibia.

### 1.4 Education Workshops

CCF participated in the Environmental Educators of Southern Africa (EEASA) conference during June 2003. At this international conference, CCF held an afternoon workshop that dealt with developing predatory conservation education and its implementation into the formal curriculum and non-formal education. The first part of the workshop included papers by CCF and Cheetah OutReach on implementing Predator Conservation in the Education Curriculum.

CCF presented a paper entitled *Challenges Facing Predator Conservation Education in Namibia*, drawing on the lessons learned from CCF's education programme, and on challenges facing predator conservation in Namibia, and in developing and implementing predator education. Cheetah Outreach Education Officer Dawn Glover presented a paper entitled *Predator Conservation Education In South Africa*. A panel discussion followed on lessons learned by other people involved with education in both formal and informal programmes and presented by Karen Knot from the IRDNC, David Sampson from NEID, and Sue Benedette from FAO.

The third part of CCF's workshop was a round table to discuss how to get predator education into the formal curriculum in Namibia and throughout the SADAC region, and how to get Predator Education into non-formal education nation and region wide. Over 10 invited participants along with CCF education staff joined in the round table discussion.

CCF student volunteer Carola Zardo, from Cheetah Outreach in Cape Town, worked actively on coordinating CCF's participation in the Conference, as well as its workshop.

As a result of this workshop, in August 2003 CCF staff members Gebhardt Nikanor and Matti Nghikembua, with CCF volunteer Ron Gray, met with the curriculum developers at National Institute for Education Development (NIED) in order to discuss requirements for submitting curriculum materials. The curriculum was submitted to NEID in September for a panel review. CCF is currently following up with NIED in order to receive feedback concerning the outcome of the panel review.

CCF was invited to present a Teacher Training Workshop at the Windhoek Teacher College on the 21 October 2003. About 70 teacher students participated in the program. CCF's presentation focused on recommended predator education activities, which correspond to the formal education curricula for grades 5 – 7, and the use of the CCF's Teachers' Resource Guide. The college expressed interest in having CCF back for future workshops.

In November, CCF was also invited to participate in a panel of discussion. The aims of the panel were to familiarise the new Peace Corps volunteers with the role of various NGOs in Namibia, and to develop contacts with relevant NGOs. About 20 people participated in the CCF presentation. Peace Corps has extended an invitation to CCF to attend a ceremony in Okahandja on the 9 January 2004.

### 1.5 Library Development

In May, CCF staff presented learners at the Rogate School in Otjiwarongo with more books and art supplies as well as a check for N\$1400. These items and the check came from pen-pal school children in Cincinnati, Ohio, USA. Through CCF, a long-term friendship between Rogate and schools in Ohio has taken place since 1994.

The recent donations came from The Greater Cincinnati Academy, a private school of 30 children. One of the students, Rachel Samuels, a 13 year old, raised the money through bake sales of cookies and cupcakes at her school. The cookies sold for N\$2.00 (\$0.25 US) each, so she raised the money for Rogate 'one cookie at a time.' The Rogate School will use the money for their school improvement projects. The book donations have provided the opportunity for the school to develop a library.

The Namibian Broadcast Corporation (NBC) news crew was present to record the donations of the books.

### 1.6 Guide for building hides

During this reporting period, CCF was approached by the Ogongo Agricultural College and the Ministry of Environment and Tourism (Ondangwa / Oshakati) to provide guidelines for constructing game viewing blinds. All relevant information, consisting of pictures, required materials, and a basic design outline, were forwarded to the College, and the Ministry.

## **2. Education and Training at CCF**

### 2.1 Conservation Biology Field School

The first Conservation Biology & Wildlife Management training course for Namibian undergraduate and post-graduate students was held in January as a result of a collaborative effort between the University of Namibia (UNAM), the Smithsonian Institution of Washington DC, USA, the Cheetah Conservation Fund (CCF) and the African Conservation Science Centre.

The 19 course participants included students from the University of Namibia, Polytechnic of Namibia, and representatives from the Ministry of Environment and Tourism (MET) and Wilderness Safaris. The course director was Dr. Martin Mbewe of UNAM, and the course co-ordinator was Dr. Rudy Rudran of the Smithsonian Institution National Zoological Park Conservation & Research Centre. Both Drs. Laurie Marker and Adrienne Crosier from CCF worked closely in course coordination while at CCF.

Half of the course was spent at CCF, where most of the practical components took place, while most of the lectures took place at UNAM. Course participants were accommodated at CCF's Cheetah View Field Research Station. Course components encompassed

principles of both *in-situ* and *ex-situ* conservation, including lectures and field excursions in genetics and field ornithology, laboratory modules, trainee seminars and mini-research projects conducted by the students themselves.

Expertise on Namibian flora and fauna was provided by local guest speakers such as Dr. Hu Berry of the CCF Scientific Advisory Board; Dr. Ulf Tubbesing, private veterinarian from Windhoek; Dr. Betsy Fox from the Ministry of Environment and Tourism; Dr. Keith Leggett of the Desert-Dwelling Elephant and Giraffe Research Project of Namibia; Blythe Loutitt from Save the Rhino Trust; and the staff of the Cheetah Conservation Fund which gave research presentations and practical examples of conservation in action.

Other course instructors from the Smithsonian Institution included Dr. David Wildt, Head of the Department of Reproductive Sciences; Dr. Rob Fleischer, Head of the Genetics Programme at the National Museum of Natural History; Dr. Jon Ballou, population geneticist; Jon Beadell, population geneticist; and Craig Saffoe, cheetah keeper.

CCF staff is helping to organise an Environmental Education course, a collaborative effort between the Smithsonian Institution, Environmental Education and Conservation Global, and the Cheetah Conservation Fund, to be held in Namibia in January 2004.

CCF received two other groups of about 50 students from the Natural Resource Management, and fisheries departments of the University of Namibia. The groups were accommodated at Cheetah View Field Research Station, one group stayed for four days and the other two days. The students were exposed to field research methods, data analyses, CCF projects, and the scientific and management aspects of cheetah conservation in Namibia. The University would like to continue with the CCF visits because of the theoretical and practical nature of CCF's research.

In collaboration with RISE Namibia (Rural-People's Institute for Social Empowerment in Namibia), CCF hosted and presented a training course titled *Integrated Livestock and Predator Management* at CCF in August this year. CCF initiated the course following requests for training from some of the communal conservancies CCF visited earlier this year.

Forty-two participants attended the course, consisting of 35 shepherds (community game guards) representing five communal conservancies, four MET extension staff members, two RISE staff members, and one CCF staff member. The five communal conservancies represented were =Khoadi //Hoas, Tsiseb, Doro !Nawas, Torra and Otjimboyo. Otjizondjupa's Regional Councillor, the Honourable Lukas Hifitikeko, opened the course on Monday night, while NACSO (Namibia Community Based Natural Resource Management Supporting Organisation) helped sponsor the course.

The three-day course covered topics ranging from correct predator spoor identification, livestock management to reduce losses, livestock husbandry and wildlife management. The 42 participants were given the opportunity to put theory to practice and test their tracking skills by investigating mock predator kill sites in and around CCF's goat kraal

during practical training sessions. Spurred on by Don Muroua's (of RISE) convincing performance of an irate farmer who had just lost a prize goat to an unknown predator, teams of participants used their Predator ID Sheets developed by REST (Rare and Endangered Species Trust) to figure out which predators had taken the livestock.

Johan Britz, CCF's farm manager, taught participants in the lecture room and kraals about livestock quality and selection, and discussed ways to improve calving percentages and to reduce livestock losses to predators. Dr. Arthur Bagot-Smith discussed livestock health and disease issues with participants, while Harry Schneider-Waterberg, chairman of the Waterberg Conservancy, discussed integrating livestock and wildlife management in conservancies and the value of conservancies.

CCF's Fanuel Ekondo dealt with the selection of livestock guarding dogs and Mandy Schumann lectured on correct predator ID, including looking at killing techniques and spoor identification. Field trips included an afternoon visit to REST where Maria Diekmann discussed the plight of the Cape Vulture in Namibia, the role of scavengers and the effects of the injudicious use of poisons on the environment.

At the beginning, and then again at the end of the course, participants filled out questionnaires CCF developed to assess how much participants had learned. All participants completed questionnaires during practice exercises, and later reviewed them to identify problem areas.

CCF and RISE received positive feedback from all the course participants. The game guards will go back to their communities and share what they have learned so that livestock and predator management can be integrated into conservancy actions.

A manual has been compiled from the course contents and steps are underway to get it printed in both English and Afrikaans. This document will then be available as an informative guide to integrated predator and livestock management for farmers, conservation and agricultural students.

In September, CCF participated in a workshop to determine collaborative interest and input for the proposed project to evaluate the effects of HIV/AIDS on conservation in Namibia, and helped to organize and instruct at the Game Capture and Translocation Course held in September 2003.

## 2.2 CCF Staff Education

CCF's Education Officer, Matti Nghikembua, who finished his B-Tech in Natural Resource Management at the end of last year, and Don Muroua, CCF former employee, both graduated from Polytechnic of Namibia. Siegfriedth !Aebeb, CCF's Community Development Officer was enrolled in a community development correspondence course.

Research Assistant, Josephine Henghali, a Master's Degree student at the University of Namibia, completed more training in veterinary clinic procedures, including animal



handling and monitoring, faecal evaluations, procedure set ups, blood drawing and processing techniques, data entry and inventory control. Due to her training during the previous year in collecting, evaluating, processing and storing sperm, Josephine is now able to carry out this procedure on her own. During this period, she has been learning how to evaluate vaginal cytology using domestic dog and cheetah smears. Josephine continues with her studies through a scholarship from the African Wildlife Foundation (AWF), including an extensive survey in northern Namibia to evaluate human attitudes towards wildlife, investigating the depth of knowledge of the health issues of livestock, and asking questions about wood use for fuel.

CCF's Fanuel Ekondo concluded a survey in 2 of the 4 emerging communal conservancies in the eastern communal land (Otjozondjupa region). This survey was the basis of Fanuel's B-Tech thesis, and is currently being reviewed by the Polytechnic of Namibia.

Research Assistant Mandy Schumann initiated work towards a Master's Degree in Conservation with a paper preliminarily titled Evaluating Human/Predator Conflict Resolution Techniques with Namibian Conservancies with Special Reference to the Cheetah.

Finally, CCF's Director is working with Master's student Raili Hasheela in the completion of her degree. Raili started her Master's in Environment and Development at the University of Natal, South Africa, in January 2003, and expects to obtain her degree by March 2004. Her research paper is entitled Evaluation of the Spoor Count Technique for Estimating Cheetah *Acinonyx jubatus* Abundance in Namibia.

## 2.2 CCF In-service Training and Field School

CCF hosts groups from institutions of higher learning, and assists in teaching at CCF's field school by providing in-service training for local and international undergraduate students.

Corris Kaapehi and Kaangu Nguasananongombe, two second year students from the Polytechnic of Namibia enrolled in the National Diploma in Natural Resource Management (Conservation) programme, completed their six-month training at CCF. During their training, two research projects were completed: Determining Species Richness and Diversity in Bush-Encroached and Recently-Burnt Areas at Farm Cheetah View, and Examining Habitat Use by Mammals (Herbivore & Carnivore) in Recently Burnt, Bush-Encroached Areas in Farm Cheetah View. In addition to their main research papers, the students assisted with the Education Centre duties, game counts, and all other areas of CCF's programmes.

In January, two University of Namibia BSc Agriculture students from the Neudamm Agriculture College completed a six-week internship and practical work experience at CCF. Both students undertook practical and theoretical training, and worked with CCF's cattle, goats and sheep, as well as on CCF's Bush Project.

Between February and May, five American students and one student from the University of Namibia completed the Utah State University accredited Round River Conservation Studies course, which is based at the Cheetah Conservation Fund's field station, Cheetah View. The aim of the course is to teach undergraduates about applied conservation biology and various field biology techniques. Two of CCF's staff members, Amy Dickman as programme manager, and Josephine Henghali as an assistant, were involved in running the course.

Three students from University of Oregon's Global Graduates programme, Jessica Rubado, Debra Laroe and Tanya Neff, conducted their three-month internships with CCF. All interns participated in all aspects of CCF activities.

Two students were accepted for the 2004 internship with Polytech: one natural resource management, and one agriculture student. Both students are expected to participate fully in CCF programs, and to submit a research and a general report upon the completion of their training. The students are expected to arrive during the first week of January 2004.

### 2.3 Collaboration with Educational Institutions

CCF's Director continues to talk with educational institutions internationally to develop partnerships for the future. In October, professors from the Worcester Polytechnic in the US visited CCF and met with General Manager Dr. Bruce Brewer to discuss possible expansion of a collaborative programme with CCF.

## **3. Namibian Environmental Educational Network (NEEN)**

CCF's Matti Nghikembua is on the NEEN steering committee, acting as Secretary of the committee during this reporting period. The network hosted its 21<sup>st</sup> International for the Environmental Education Association of Southern Africa (EEASA) conference in 2003. Preparations for the conference took a great deal of time and Matti attended several planning meetings before the Conference. In addition, the NEEN Chairman, past CCF Education Coordinator, Graeme Wilson, spent time at CCF in planning.

About eight steering committee meetings were attended between 1 January and 31 December 2003. The focal issues for these committee meetings were: NEEN's membership base, management and administration, NEEN priorities –especially those of the coordinator, and the sustainability of the organisation. The NEEN AGM will take place on the 2 – 3 February 2003. Having served for two terms in the Committee, Matti will not stand again for nomination.

## **E. Eco-Tourism**

As a member of the Otjiwarongo Tourism Forum, CCF has been one of the key players in assisting the Forum in regional marketing. The organisation promotes and encourages tourists and tour groups to visit the "Cheetah Capital of the World", and overnight in the

Otjiwarongo area, the heart of cheetah country. The Mayor of Otjiwarongo, Mr. Otto Opinge, officially launched the town's official campaign in Windhoek last July.

As part of this campaign, the Forum developed bumper stickers, and a billboard welcoming people to visit Otjiwarongo, the "Cheetah Capital of the World. The "Meetah Cheetah" campaign, in planning for over 18 months, was launched with the first two community fibreglass cheetahs painted in March. CCF staff and volunteers joined members of the Otjiwarongo Tourism Forum in encouraging the community to paint squares on the two cheetah forms during the campaign kick off during the 'Paint A Cheetah Day'.

Approximately 30 nearly life-sized fibreglass cheetah models are being sold to individuals and institutions, with CCF leading this effort by visiting local businesses and encouraging them to buy the moulds. The mould owners are then requested to paint their cheetah or have artists do it for them. To this end, CCF has urged the Tourism Board to enlist the assistance of members of the newly opened Otjiwarongo Arts Centre. These artworks will be displayed throughout Otjiwarongo. Internationally, the Otjiwarongo Tourism Forum is working closely with its sister city in Toronto, Canada, to link the Meetah Cheetah Campaign with their "Moose is Loose" campaign.

The Otjiwarongo Tourism Board is also in the process of publishing a comprehensive Otjiwarongo Business and Investment Guide, and CCF has supplied a map of its facilities to be published on the centre page of this guide, along with an Otjiwarongo City Plan. Finally, CCF is also assisting, in a consulting role, with the planning and organisation of a Cheetah Festival scheduled to take place in Otjiwarongo in July 2004.

Early in the year, CCF made two presentations at the Mokuti Lodge for a group visiting from the Stanford University.

CCF encourages international visitors to stay within the Conservancy if they visit CCF. CCF staff introduces visiting groups to its many programmes, and organised cheetah runs for their enjoyment.

In January, Joyce Basel from Fun Safaris from the US, the leading tour operator dealing with US zoos, brought a FAN group of zoo directors to visit the Waterberg Conservancy.

Among the groups visiting CCF in 2003, a tour group from the San Diego Zoo, the Binder Park Zoo, the Columbus Zoo, the American Museum of Natural History, the People's Trust for Endangered Species and two groups from the Cincinnati Zoo spent a couple of days at CCF and the Conservancy. The groups from Cincinnati Zoo included many personal friends of Cathryn Hilker, who lead one of the tours. The other one included Cincinnati Zoo Board members, and was led by the Cincinnati Zoo director, Gregg Hudson. CCF staff conducted many special activities for the Cincinnati groups, including hikes on the base of the Waterberg Plateau, cheetah runs, and lots of photo opportunities. In addition to this, CCF hosted a braai for the Cincinnati board members to meet members of the Otjiwarongo business community. Both the United States

Ambassador and the Deputy Minister of Agriculture attended the dinner at CCF, along with several of CCF Namibian board members.

More recently, CCF began collaborating with a travel booking agent, 'nuevas ideas CC', who will handle all information and reservation requests for CCF and the local community.

## **F. International Programmes**

CCF assists in international programme development and adapts model programmes developed in Namibia for use in other countries, distributing its materials and information throughout Africa and the rest of the world. CCF's director, Laurie Marker, is a member of the Core Group of the IUCN's Cat Specialist Group, and maintains international communications on the status of cheetah populations worldwide, including their relationship with man, and threats to their survival.

### **1. Cheetah Conservation Fund - Kenya**

CCF Kenya is led by CCF Senior Research Assistant Mary Wykstra and research assistant Cosmas Wambua. Over the past 12 months, good collaboration has been developed. Through effective networking with Kenya Wildlife Services (KWS) in the farming communities, CCF Kenya staff was frequently contacted with reports of cheetah sightings and problems. Several cases were investigated over this six-month reporting period.

During this time, CCF-Kenya along with CCF-Namibian intern, Ezequiel Fabiano, analysed data that had been collected in 2002 from stakeholders within the Nakuru Wildlife Forum (NWF) and surrounding communities. The report was submitted to KWS.

CCF-Kenya continued its game counts and habitat analysis in the NWF, including semi-annual Forum-wide counts, and specific monthly counts on the Soysambu Sanctuary and Delamere Estates.

CCF-Kenya staff continued to network in the Machakos Wildlife Forum (MWF), Laikipia Wildlife Forum (LWF), and in the Tsavo (Taita Taveta Wildlife Forum) and Samburu regions to lay groundwork for comparative interviews. Fourteen interviews were conducted in the MWF and LWF districts.

CCF-Kenya continued to develop its education programme in the Nakuru region. During this reporting period, CCF-Kenya conducted Environmental Education Programs on cheetah and predator awareness with 24 schools reaching more than 200 students in the Nakuru and Gilgil Municipalities (19 primary and 5 secondary schools). CCF Kenya printed 20,000 primary and 20,000 secondary school activity pages that are being distributed by Friends of Conservation, Wildlife Clubs of Kenya, and KWS.

CCF-Kenya staff made 16 presentations to tourists through local and international tour operators during the first 6 months of 2003. In addition, tourism campaign brochures (“The Great Cheetah Census”) were printed and launched in affiliation with the Friends of Conservation and supported by a grant from the Angel Fund from the Cincinnati Zoo for a general tourism awareness campaign.

KWS continued to monitor the cheetah in the Masai Mara. KWS plans to conduct genetic testing on the Mara cheetah now that they have an idea of the distribution within the Park. CCF-Kenya assisted in developing protocols for the biomedical sampling to ensure methodologies are consistent. Additionally, CCF-Kenya actually participated with KWS in biomedical collection of cheetah in the Masai Mara Reserve.

In July, CCF Kenya hosted a workshop on Cheetah Conservation in Kenya. Nearly 40 people attended the workshop that brought together international cheetah experts and Kenyans interested in cheetah conservation, including several members of the Kenyan Wildlife Service, representatives from four of Kenya’s Wildlife Forums, three NGO’s including officials of the African Wildlife Foundation and Save the Elephant Trust, along with the Director of the Serengeti Cheetah Project, Dr. Sarah Durant, and the Executive Director of the Cheetah Conservation Fund, Dr. Laurie Marker and Senior Research Assistant Amy Dickman.

The workshop aims were to put Kenya’s cheetah research into a global context, and to bring people together who are interested in cheetah conservation in Kenya and to encourage cooperation between existing and proposed projects through linkages and following guidelines set by the Global Cheetah Master Plan. The topics of discussion at the workshop included Research, Management, and Education.

CCF’s Director Dr. Laurie Marker, guest speaker at the workshop, presented information on the Global Cheetah Master Plan, model programmes developed in Namibia for cheetah outside protected areas and the future of cheetah throughout its range, as well as an international perspective on the difficulties of captive breeding and management, important as a backup to the wild population.

Mary Wykstra and Cosmas Wambua talked about their cheetah research on ranch/farm land outside of protected reserves and parks focusing on the Nakuru Wildlife Forum area and the Machakos area. Several members of KWS also made presentations. Martin Mulama, Assistant Director of Research and Planning gave an over view of the current research projects in Kenya. Bernard Kuloba, head researcher for the Mara Cheetah Research Project, presented results from the past year’s studies, including the identification of over 35 cheetahs in the Mara ecosystem. David Konas, KWS researcher discussed his census finding of cheetah in the Samburu and Marsabit areas. Dr. Adeela Sayyid, Curator of the Nairobi Orphanage and SafariWalk and veterinarian for the Mara cheetah research project presented the protocols for biomedical collections and condition of the Mara cheetahs she has handled. KWS and CCF have cooperatively initiated collection of biomedical samples of cheetah in the Masai Mara and developed a protocol for collection in other regions. With increasing information on cheetah/human conflict

issues it is important for CCF and KWS to continue working cooperatively to develop protocols for handling capture, sampling and relocation of problem cheetahs.

Other talks were presented by Dr. Sarah Durant and Dr. Fumi Mizutani. Dr. Durant talked about the long-term cheetah research conducted in the Serengeti National Park. Where Dr. Mizutani talked about human and predator conflict issues in the Lakipia area.

There are several individuals and organisations that have expressed an interest in assisting with the development of research, conservation and education programmes through out Kenya. In order to promote consistency in data collection and presentation, CCF and KWS used this workshop as a gathering of the interested parties to discuss cooperative programmes for the general conservation and education for the long-term survival of Kenya's cheetahs.

A follow up workshop was held in December with 20 participants. Goals for 2004 were set and included conducting a more detailed cheetah census campaign throughout the country. CCF's Senior Research Assistant, Bonnie Schumann, spent a month in Kenya in December to work with the CCF Kenya staff.

## **2. Iranian Cheetah Conservation**

With less than 50 cheetahs left in Iran, a project supported by a United Nations Development Programme (UNDP) grant entitled "Conservation of the Asiatic Cheetah, Its Natural Habitat and Associated Biota" in the I.R. of Iran continues to gain momentum. CCF has been asked by the UNDP to participate in an Inception Mission to Iran in January 2004, which will guide the conservation planning. The Iranian biologists responsible for the project remain in close contact with CCF.

## **3. Botswana Training**

In April, one of Cheetah Conservation Botswana (CCB) staff spent a couple of weeks at CCF Namibia for continued training in addressing farmers and cheetah/livestock conflict issues. Then, one of CCF's staff members, Mandy Schumann, travelled to Botswana and together they visited several farms and began collecting survey data on farming practices and conflict issues. In addition CCF staff inspected CCB's new field base of operations and cheetah pens in Jwaneng.

In December, CCB's Annemarie Hauser visited CCF. During her visit, CCF provided her with educational and laboratory materials, as well as a draft of CCF's manual on Integrated Livestock and Predator Management for possible adaptation in Botswana.

## **4. Captive Cheetah Management - International Cheetah Studbook**

CCF's Director, Dr. Laurie Marker, is the Keeper of the International Cheetah Studbook. The 2002 International Cheetah Studbook is in the process of being finalised. The Studbook was reviewed while at the Global Captive Cheetah meeting in April. Its

analysis indicated that the global captive population was declining by 5% annually, and this demographic crisis was addressed internationally.

In April 2003 one of the 10 cheetahs that were donated by Namibia to the USA sired a litter of five cubs at the White Oak Conservation Centre in Florida. All five cubs are doing very well and their dam is raising them. In addition, a single cub from the Columbus Zoo was fostered with this litter and has adapted well to his new foster family.

In December 2003 one of the ten cheetahs that were donated by Namibia to the USA sired two litters at the White Oak Conservation Centre in Florida. The female who gave birth to the first litter in early December is also one of the ten Namibian cheetahs. Her four cubs are doing very well and are being raised by her. The second litter consisted of one cub that was stillborn.

## **G. CCF Organisational Activities**

### **1. Development and International Fundraising**

#### **1.1 Namibian Trust**

CCF's Namibian Trust, a recognised Section 21 Company, held its first board meeting in March. The old board structure, a voluntary organisation, will remain active while the new Trust gains momentum.

CCF held a board meeting in August and finalised both its Land Trust and Section-21 Company.

#### **1.2 Annual Fund Raising Dinner**

In March, planning for CCF's 5<sup>th</sup> annual fundraising dinner, "A Celebration of Speed and Elegance," began. The event took place on 19 July at the Windhoek Country Club with nearly 300 people in attendance. This year's guest of honour was Namibian Prime Minister, the Hon. Theo-Ben Gurirab. Dr. Patrick Bergin, President and CEO of the African Wildlife Foundation, was the keynote speaker. The silent auction was very successful. Three awards were presented during the dinner, including the 4<sup>th</sup> Annual Cheetah Conservationist of the Year Award, which for the first time was presented also to a communal farmer. The awardees this year were commercial farmer Timm Miller and communal farmer Petrina Hikas. The third award, a general conservation award, was presented to Garth Owen-Smith and Margy Jacobson from IRDNC (Integrated Rural Development and Nature Conservation).

#### **1.3 US Foundation and Fundraising Activities**

During the past six months, CCF's Executive Director, Laurie Marker, was in the United States three times to deal with CCF USA business, and for fundraising activities and lectures. CCF continues to receive most of its funds from the United States.

In February, Laurie Marker met with CCF USA board members, Charlie Knowles, Vance Martin, and Pat Miller to discuss possibilities for the future of CCF, as CCF USA President, Vance Martin, has asked to put a plan in place so he can resign from his responsibilities as President. Another meeting was held with Board and Scientific Board members, Drs. Stephen O'Brien, David Wildt, and Susie Ellis to discuss CCF's scientific programmes. In addition, another meeting was held with CCF board members Annie Graham, Bobby Haas, Vance Martin, Dr. Stephen O'Brien and Laurie Marker to discuss strategies for fundraising and CCF USA's future.

In June, Laurie Marker attended the CCF US Board meeting in Cincinnati, Ohio, which was attended by all but one member of the board. Prior to the board meeting, Laurie met with Scientific Board members, Drs. David Wildt and Susie Ellis, and Stephen O'Brien to develop a presentation for the board entitled: Cheetah Conservation Fund - Past, Present and Future, which looked at lessons learned, and goals for the strategic plan over the next five years.

The June Board meeting at the Cincinnati Zoo was forward thinking towards a new future for CCF, as the Cincinnati Zoo's Director, Gregg Hudson, offered to support a professional strategic plan, which will be completed by the next board meeting in October. The plan will include a staging process that relieves Vance Martin from his CCF USA presidential responsibilities, and develops a new model for CCF's operations and a fundraising strategy.

In September/October, CCF's director travelled to 13 states and gave 30 some lectures in over 25 cities. Highlights of the trip included being one of the presenters in a cheetah workshop talk given at the American Zoo Association (AZA's) annual conference, a key note speaker at the American Association of Zoo Keeper's (AAZK) annual conference, key lectures in Boston at Worcester Polytechnic, the oldest Polytechnic in the US, Tufts University, University of California at Irvine, the University of Arizona, the Phoenix Zoo, the Woodland Park Zoo and Microsoft in Seattle, the Oregon Zoo, Franklin Park Zoo, Little Rock Zoo, Safari West in California, and the Wildlife Conservation Network's 2<sup>nd</sup> annual weekend. In addition to there CCF USA Chapters in several cities hosted fund raising events and community lectures which raised a lot of awareness and funds to help CCF continue its goals. Another highlight of the tour included a trip to Calgary where Dr. Marker was presented as one of the Chevron Texaco Conservationists for the year and attended the awards dinner.

In October, new CCF Chairwoman, Annie Graham, hosted the CCF Board meeting at her ranch in Montana. Further discussions took place between CCF board members and the Cincinnati Zoo's Director, Greg Hudson, on the new model for CCF's operations, which will transfer to Cincinnati by the latest in July 2004 as well as a fundraising strategy being developed by Scott Schultz, a consultant to the Cincinnati Zoo.



#### 1.4 UK Fundraising

CCF UK held their Annual General Meeting in February 2003 and a MOU between the Friends of Conservation (FOC) in London, CCF UK and CCF Namibia was signed. In May, CCF's Executive Director Laurie Marker met with FOC to discuss fundraising plans for 2004.

Jonathan Hodrien of Friends of Conservation (FOC-UK), and CCF UK Trustee Peter Stewart, visited CCF in November. The visitors discussed plans for CCF's Director's 2004 Fundraising tour to the UK, as well as other potential fundraising strategies, particularly in the area of eco-tourism from the UK.

#### 1.5 South Africa's Cheetah OutReach

Cheetah OutReach has continued to support the efforts of CCF through their educational outreach programmes and direct financial support. CCF is now assisting Cheetah OutReach by encouraging support for a major renovation project scheduled for 2004 at the Spier Wine Estate. Presently, most of the funds have been secured for this project.

Annie Beckhelling of Cheetah OutReach visited CCF in December. Her visit presented CCF with a good opportunity to discuss Cheetah OutReach's support of CCF's efforts, as well as progress of their renovation project at the Spier Wine Estate. In addition, Cheetah OutReach will take one of CCF's re-homed Anatolian Livestock Guarding Dogs as Ambassador of this programme in South Africa.

### **H. International Meetings and Conferences**

#### **1. Global Captive Cheetah Workshop**

In April 2003, Laurie Marker attended a Global Captive Cheetah meeting at the Fossil Rim Wildlife Center in Glen Rose, Texas. The meeting objective was to work collectively in the development of a joint-management program for the captive cheetah community, as well as to address husbandry issues faced by all captive managers. Twenty representatives from cheetah facilities in South Africa, Holland and the US, along with key scientists working on cheetahs were in attendance.

A proposal to consider regional cheetah-breeding centres was made. This model system would establish multiple regional breeding centres with partner facilities that would work together and pool resources to ensure a genetically and demographically viable, self-sustaining cheetah population. The proposal will be forwarded to all regional coordinators for further discussion in order to get consensus on this innovative management concept for global metapopulation management.

## **2. American Zoo Association Annual Felid Tag Meeting**

In April, CCF's Director attended the AZA's Annual Felid Tag meeting in the United States. A slide presentation was given on CCF's activities to the US cat specialists.

## **3. Pan African Association of Zoos, Aquariums and Botanical Gardens (PAAZAB)**

Research Assistant Mandy Schumann attended the annual PAAZAB conference in June in South Africa.

## **4. American Zoo Association (AZA) Annual Conference**

CCF's director attended the annual AZA conference in Columbus, Ohio and attended the Cheetah SSP meeting, Felid Tag meeting, and participated in a cheetah workshop during the conference. The AZA conference is one the largest gathering of zoo professionals in the world and presented a good opportunity to discuss CCF's programmes with potential donors and collaborators.

## **5. World Parks Congress (WPC)**

In September, CCF's director was invited to attend the World's Park's Congress in Durban, South Africa. This Congress is only held once every 10 years and can be attended by invitation only. Laurie was involved in the development of a new task force on Human Wildlife Conflict and spent three intense days discussing issues surrounding this topic and recommending direction for this Task force to take. In addition, she was a part of a group that looked at the interface between livestock and wildlife disease risks in Africa. There has been extensive follow up with both groups after the meeting.

## **6. Society for Conservation Biology**

Two papers were presented on CCF's research at the Annual conference of Conservation Biology, in Duluth, Minnesota including: Cheetah (*Acinonyx jubatus*) habitat characteristics on commercial farms in north-central Namibia, by Muntifering, J., T. Hurska, L. Perlow, R. Jeo, A. Dickman and L. Marker, and Failure of scent-lures to elicit rubbing behavior in wild-caught namibian cheetah (*Acinonyx jubatus*), by Patterson, A., Noson, A., Dickman, A., Marker, L. and Jeo, R. M.

## **I. Media and Public Relations**

CCF has continued to gain publicity in international and Namibian media, through news items and feature articles in the print media, and in television and radio broadcasts.

In January, a UK still photographer, Harry Harrington visited CCF for three weeks to document programmes and activities for collaborative magazine articles. His photos have been made available for CCF presentations. Two other independent still photographers from Germany and Switzerland visited CCF later in the year.

In February, Olaf Claus of the German TV station ZDF visited CCF for two days. During his stay, he conducted interviews with CCF staff, visited the farms, and joined on a tracking flight.

In April, Jack Hannah, a well-known US celebrity and Columbus Zoo's Director Emeritus visited CCF with a film crew. During his visit, the crew was able to go along with CCF staff on a cheetah rescue. The programme, called Jack Hannah's Animal Adventures, will be shown across the US later in 2003.

In July and November, a film crew from Grenada Bristol in the UK spent several weeks at CCF filming an Animal Planet TV special on Namibian cheetahs for Mutual of Omaha's Wild Kingdom. The show will be aired in March of 2004. Mutual of Omaha's host Peter Gros joined the crew during the November shootings.

Several national and regional newspaper and magazine articles were published as a result CCF's Executive Director, Laurie Marker, having been chosen as one of this year's Audi Terra Nova Award Finalists. She was honoured at a ceremony in January in South Africa with Audi representatives and Dr. Ian Player, Audi's Patron of the Terra Nova awards.

By contact with journalists and sending regular news releases, CCF's profile in the Namibian media and elsewhere has been kept high. CCF achieved much coverage in Namibia, as well as in the Friend's of Conservation Newsletter, for its activities around the 'Meetah Cheetah' campaign. The annual "Celebration of Speed and Elegance" fundraising dinner also received ample coverage. In December, the Namibian Broadcasting Corporation (NBC)'s Good Morning Namibia TV show hosted CCF's Laurie Marker and Mandy Schumann, who discussed the Livestock Guarding Dog Programme, among other topics. Resulting from a press release regarding calving season in Namibia, NBC Radio conducted two separate interviews on predators and farming practices with Laurie Marker and Dr. Arthur Bagot-Smith, respectively, for their German broadcast.

Laurie Marker's Chevron Texaco Conservationists of the Year award attracted some media coverage, internationally as well as in Namibia. In addition, while in Canada, Laurie was interviewed for two major radio programmes, National Public Radio and an environmental radio station from Los Angeles. There was also a lot of media coverage throughout the US as Laurie conducted her annual lecture tour in the various cities.

Internationally, interviews were given for a UK/USA magazine called Best Friends, Animal Wellness Magazine, Journal Für die Frau (Austria), and Travel Africa (UK), where an article entitled "Cheetah Teacher," written by a former volunteer, was published in the Fall. Other articles written by former volunteers included "France's Cheetah Challenge" on The Mag (UK) in August, and "African Wildlife Beckons Student" on the International Education, Experience, and Employment newsletter fall issue.

Approaches made to several UK magazine editors in 2002 resulted in features on CCF in two popular magazines, Global Adventure and Cat World. Another focus has been including CCF in Travel Guides to Namibia. CCF will have editorial and advertising space in several guides produced within Namibia and South Africa, as well as international guides.

### **J. Visitors to CCF**

During the past six months, CCF had several special groups visit its Centre including Drs. Linda Munson and David Wildt from CCF's Science Advisory Board, as well as members of CCF's Canadian Board, CCF USA, CCF UK, CCF Oregon Chapter, and Cheetah OutReach, along with other supporters and Chapter members.

Finally, in November, a representative of the Rolex Conservation Awards (Switzerland) spent two days at CCF, to interview its Executive Director, and learn more about its programmes. This visit arose from CCF's award application submitted to Rolex in July 2003.

### **K. Volunteer Programme**

Volunteers are the backbone of CCF's programmes. During 2003, 38 EarthWatch volunteers assisted CCF. CCF has been working with EarthWatch since 1996, and four volunteers participate on a monthly basis for a two-week period.

In addition, five groups from the British youth development organisation, Raleigh International, each spent three weeks at CCF. The groups, composed of 20 volunteers each, undertook the building of the new 64-hectare cheetah pen on CCF's Bellebenno farm, as well as working on the rhino sanctuary infrastructure including two natural water holes, a horse pen, and other building improvements for CCF's preparation for participation in the Namibian Rhino Custodianship programme.

In January, Judith Walls, a repeat CCF volunteer from a business background visited CCF. During this time she assisted with CCF's 5-year strategic plan, and agreed to coordinate CCF's volunteer programme. Judith's responsibilities include ensuring that all applicants' address are sent to CCF USA for the database; ensuring that all volunteer applications are channelled through her; coordinating with CCF USA and CCF Namibia on volunteers' payments; and linking with Friends of Conservation (FOC) in the UK to set up a collaboration for UK applicants. Judith also surveyed past volunteers on how they raised funds to volunteer with CCF, and worked with CCF's Webmaster in publishing funding suggestions on CCF's web page for potential volunteers.

In 2003, CCF received 278 queries about volunteering. Of these, 49 people were accepted. CCF welcomed 41 long- and short-term volunteers that included international students and professionals in various fields. Some are volunteers from our US chapters, whilst others had experience in animal or veterinary care, as well as business and marketing. One of these volunteers, a Keeper from Cincinnati Zoo, served for a period of three weeks in August.

In May, CCF brought on a past EarthWatch volunteer for a three-month stay to help with organisational and human resources development. Also in May, CCF brought on a two-month volunteer who continued with the development of our 5-year strategic plan and our Bush Project business plan.

In June, another past EarthWatch volunteer came on board for two 3-month periods to assist with grant writing, administration, and the coordination of CCF's annual fundraising dinner. In the same month, CCF brought on a two-month volunteer to assist with CCF's Environmental Education and curriculum development, while another volunteer with web advertising background helped with the design of CCF's virtual tour of the Education Centre for the web page.

In December, a one-month volunteer with business experience joined CCF to assist with CCF Bush and with fundraising efforts by the Oregon Chapter. Two three-month volunteers with marketing and advertising backgrounds also joined CCF and are assisting with various business and organisational tasks, as well as with CCF Bush.

#### **L. CCF Staffing**

In April, CCF added two new employees, Bessie and Max Simon, to oversee its Janhelpman property. Max Simon is a mechanic as well, and has taken over the general maintenance of CCF's vehicles and Bessie manages the livestock on the farm.

In September and October, CCF staff members Fanuel Ekondo and Siegfriedth !Aebob left CCF to take on important positions at regional and national levels, respectively. In November, CCF added an assistant farm manager, Engelhardt Awaseb, and in December, an Educator, Abraham Masadu.

CCF's permanent staff includes:

Dr. Laurie Marker – Executive Director  
Dr. Bruce Brewer – General Manager  
Johan Britz – Farm Manager  
Tanya Britz – Accountant and Administrative Assistant  
Amy Dickman - Senior Research Assistant  
Dr. Adrienne Crosier – Reproductive Physiology (joint appointment with Smithsonian)  
Josephine Henghali – Research Assistant  
Matti Nghikembua – Research Assistant & Education Officer  
Gephardt Nikanor – Education Assistant  
Abraham Masadu – Education Officer  
Audrey Pickup – Veterinary Technician  
Bonnie Schumann – Senior Research Assistant  
Mandy Schumann – Research Assistant  
Bessie Simon – Janhelpman Supervisor  
Max Simon – Maintenance Supervisor

Engelhardt Awaseb – Assistant Farm Manager  
Cosmas Wambua – Research Assistant - Kenya  
Mary Wykstra – Senior Research Assistant – Kenya

CCF also employs 19 Namibian farm and domestic workers.

#### **IV. PLANNED ACTIVITIES: January - June 2004**

During the next six months CCF will:

- Continue work with farmers on cheetah-related issues and reducing conflict towards cheetahs.
- Continue with tag-and-release programme and biomedical sampling.
- Collaborate with the Smithsonian Institution's National Zoo in reproductive physiology studies on male cheetahs at CCF's Centre.
- Collaborate with University of Davis and Namibian veterinarians on stress related disease research and collection of gastric biopsies.
- Conduct annual health exams and endoscopies on all cheetahs held at CCF Centre.
- Continue work with the Large Carnivore Management Association.
- Continue work with the Global Cheetah Forum.
- Work with USAID, and the Ministries of Agriculture, Environment and Tourism, and Trade and Industry on bush encroachment-related research and bush industry development. The first logs will be produced in early 2004.
- Continue work with the Conservation Association of Namibia (CANAM), the Waterberg Conservancy, and communal conservancies in wildlife and habitat monitoring, eco-tourism activities, and promoting the concept of conservancies.
- Continue to expand the Livestock Guarding Dog Programme through breeding, placement and monitoring of dogs.
- Continue to expand CCF's community development programme with emphasis on community game guards. A workshop on predator identification is planned for April.
- Continue to conduct educational assembly programmes in schools throughout Namibia and distribute and evaluate student activity books in collaboration with the Cincinnati Zoo.
- Work with the Ministry of Basic Education, Culture and Sports in the developing and adoption of predator conservation in the national school curriculum.

- Host a two-week Environmental Education course in cooperation with Smithsonian Institution's National Zoo in January.
- Plan a month long Conservation Biology course in cooperation with the Smithsonian Institution's National Zoo for May or June.
- Plan a three-week long teachers training workshop in cooperation with the Cincinnati Zoo and the Miami University for August.
- Host University groups at Cheetah View in cooperation with University of Namibia.
- Continue with student internships in co-operation with Namibia's Polytechnic, the University of Namibia, and Oregon's Global Graduate Programme.
- Continue as a field station for EarthWatch and work with EarthWatch volunteers.
- Continue work with CCF's Namibian fundraising committee to recruit partnerships with local businesses.
- Plan and execute CCF Namibia's annual fund raising dinner in July 2004.
- Assist with the development of CCF UK and conduct a two-week long lecture and fundraising trip to UK in May.
- Participate in the Inception Mission with the Iranian Cheetah Recovery Programme through United Nations Development Programme (UNDP) in January.
- Assist Iran and Kenya with developing cheetah programmes in their countries, as well as Botswana, Zimbabwe and South Africa.
- Publish peer reviewed scientific papers on CCF's research.
- Continue to host national and international journalists.
- Develop a strategy for Rhino Conservation on CCF and Waterberg Conservancy properties.
- Travel to the United States for fundraising and lectures in February and May.

## APPENDIX

### Papers published in 2003

- Marker, L., Dickman, A., 2003. Conserving Cheetahs Outside Protected Areas: An Example from Namibian Farmlands. *Cat News*, 38: 24-25.
- Marker, L.L., Dickman, A.J., 2003. Morphology, physical condition and growth of the cheetah (*Acinonyx jubatus jubatus*). *Journal of Mammalogy*, 84: 840-850.
- Marker, L.L., Dickman, A.J., Jeo, R.M., Mills, M.G.L., Macdonald, D.W., 2003. Demography of the Namibian cheetah (*Acinonyx jubatus jubatus*). *Biological Conservation*, 114: 413-425.
- Marker, L.L., Dickman, A.J., Mills, M.G.L., Macdonald, D.W., 2003. Aspects of the management of cheetahs, *Acinonyx jubatus jubatus*, trapped on Namibian farmlands. *Biological Conservation*, 114: 401-412.
- Marker, L.L., Mills, M.G.L., Macdonald, D.W., 2003. Factors Influencing Perceptions and Tolerance Toward Cheetahs (*Acinonyx jubatus*) on Namibian Farmlands. *Conservation Biology*, 17: 1-9.
- Marker, L.L., Dickman, A.J., 2004. Dental anomalies and incidence of palatal erosion in Namibian cheetahs (*Acinonyx jubatus jubatus*). *Journal of Mammalogy*, 85: 13-18.
- Marker, L.L., Muntifering, J.R., Dickman, A.J., Mills, M.G.L., Macdonald, D.W. 2003. Quantifying prey preferences of free-ranging Namibian cheetahs. *South African Journal of Wildlife Research*, 33: 43-53.
- Kerio, K.A., Marker, L., Overstrom, E.W., Brown, J.L. 2003. Analysis of ovarian and adrenal activity in Namibian cheetahs. *South African Journal of Wildlife Research*, 33(2): 71-78.

### Papers submitted for publication in 2003

- Marker, L.L., Dickman, A.J., submitted. Conserving Large Carnivores Outside Protected Areas: Using the Namibian Cheetah *Acinonyx jubatus jubatus* as a Case Study. *Oryx*.
- Marker, L.L., Dickman, A.J., submitted. Factors affecting leopard (*Panthera pardus*) spatial ecology, with particular reference to Namibian farmlands. *South African Journal of Wildlife Research*.



Marker, L.L., Dickman, A.J., submitted. Notes on the spatial ecology of caracals (*Felis caracal*), with particular reference to Namibian farmlands. *African Journal of Ecology*.

Marker, L.L., Dickman, A.J., Macdonald, D.W., submitted. Evaluating the effectiveness of livestock guarding dogs as a method of conflict resolution. *Journal of Rangeland Management*.

Marker, L.L., Dickman, A.J., Macdonald, D.W., submitted. Survivorship of livestock guarding dogs: implications for human-predator conflict resolution. *Journal of Rangeland Management*.

Marker, L.L., Mills, M.G.L., Jeo, R.M., Dickman, A.J., Macdonald, D.W., submitted. Factors influencing the spatial distribution of cheetahs (*Acinonyx jubatus*) on north-central Namibian farmlands. *Journal of Applied Ecology*.

Munson, L., Marker, L., Dubovi, E., Spencer, J.A., Evermann, J.F. and O'Brien, S.J. A Serosurvey of Viral Infections in Wild Namibian Cheetahs (*Acinonyx jubatus*). *Journal of Wildlife Diseases* (in press).

Marker, L., Munson, L., Basson, P.A., and Quackenbush, S. Lymphosarcoma Associated with Feline Leukemia Virus infection in a Captive Namibian Cheetah (*Acinonyx jubatus*). *Journal of Wildlife Diseases* (in press).

### **Papers in preparation 2003**

Crosier, A.E., Pukazhenti, B.S., Henghali, J.N., Howard, J.G., Dickman, A.J., Marker, L., Wildt, D.E., 2003. Effect of glycerol exposure and temperature at glycerol addition on cheetah (*Acinonyx jubatus*) sperm cryopreservation. *Reproduction*, in preparation.