



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

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**Reporting Period
JANUARY THROUGH DECEMBER 2009**

CHEETAH CONSERVATION FUND
Annual Report 2009

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I. EXECUTIVE SUMMARY

The Cheetah Conservation Fund remains a global leader in advocating the long-term survival of the Cheetah. We are on track in pursuing our mission to gain international recognition for excellence in research and education on cheetahs and their ecosystems through work with all stakeholders to achieve best practices in conservation and management of the world's cheetahs. This approach to the problem -- pioneering the integration of scientific research with ecosystem conservation efforts and an array of education programs and other public outreach activities -- serves as a model for other facilities, but CCF continues to stand out by virtue of its geographic proximity to the largest population of cheetahs in the world.

We started 2009 monitoring the NamibRand boys, five male cheetahs that CCF released into the NamibRand Nature Reserve, an area that hadn't seen cheetahs in decades. CCF had long been working on a process for "rewilding" captive cheetahs. These cheetahs had been in captivity since they were adolescents, but in an area large enough to allow them to hunt. Chosen for release because these boys had hunted, they were released into the unfenced wilderness of southern Namibia. CCF staff monitored them daily, feeding them until they proved they could hunt successfully and consistently. Later we released three females and one has since given birth to cubs fathered by one of the NamibRand boys. Releasing captive cheetahs back into the wild was long thought impossible. Now, cheetahs once again roam in an area where they had earlier been exterminated.

In September, Steve O'Brien (CCF USA Chairman of the Board and internationally renowned geneticist), along with other CCF partners and I consulted with Indian government officials about the possibility of reintroducing cheetahs in India after nearly 60 years of extinction. While many details and issues need to be resolved before this can happen, the prospect of returning the cheetah to another former territory—in effect doubling the cheetah's range—is tremendously exciting.

For the cheetah to survive in the wild, the "best management practices" that CCF has developed for cheetah conservation must be shared and embraced by all cheetah range countries. So in 2008 and 2009, CCF hosted 78 wildlife managers and conservation biologists from more than 15 cheetah range countries, including Iran and India, so that they could learn CCF's methods. The courses have been a huge success, and CCF will hold more in 2010, thanks to a generous grant from the Howard G. Buffett Foundation.

CCF's Bushblok, the fuel log made from the invasive acacia thorn bush taking over the cheetah's habitat, continues to receive world-wide attention. This year, Bushblok was picked as a finalist for the St Andrews Prize for the Environment and for World Challenge '09, a contest sponsored by the BBC, Newsweek, and Shell. In 2010, CCF's Bush Project, one of the largest habitat restoration efforts in Africa, must increase its bush-harvesting capacity significantly to meet demand for Bushblok and other products.

Censusing Namibia's cheetahs remains a critical aspect of CCF's research. This year, Finn, a trained scat sniffing dog, became CCF's newest census tool. Finn and CCF ecologists will be critical in finding and identifying cheetah scat. DNA extracted from the scat by genetics staff in CCF's new Applied Biosystems Genetics Laboratory will help us identify individual cheetahs and further understand cheetah population structure. CCF's research will continue to help shape conservation policies for cheetahs in Namibia and other cheetah range countries.

An assessment of CCF's economic impact, prepared by economists at the Bureau of Business Research [www.bbr.unl.edu] at the University of Nebraska-Lincoln, found that CCF's on-site spending that supports research, conservation, and education and off-site spending throughout Namibia by visitors and volunteers coming to CCF translated into N\$29.1 million and 166 jobs associated with this impact in

2007. This result reflects the key role that research and conservation and education can play in generating an economic impact for Namibia.

I. INTRODUCTION: VISION AND MISSION

Founded in 1990, The Cheetah Conservation Fund's (CCF) mission is *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 a variety of programmes regarding cheetah and their habitat. These include scientific research, the publishing of scientific papers and sharing of findings internationally via conferences and the press, assisting in the management of captive and free-ranging cheetah throughout the world, maintaining a major public conservation awareness and education programme for local and international communities and school groups from primary through college education, and conducting community conservation and predator conflict resolution programmes.

CCF's base of operations is 44 km outside Otjiwarongo, Namibia, as Namibia is home to the largest number of free-ranging cheetah with $\pm 20\%$ ($\pm 3,000$) of the world's estimated wild population of $\sim 10,000$. The cheetah's survival depends on a total integrated approach: an ecological system of farmland management, prey species management and habitat stability using practices such as alternative land management, non-lethal predator control, and relocation of problem cheetahs. 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.

What makes CCF unique and different among other similar facilities focusing on species survival is its geographical location within the largest population of cheetah, and its pioneering of an integrated approach to research, conservation, and education. Subsequently, other facilities have adopted many of their groundbreaking programmes and practices. CCF combines a world-class field research facility with a specialised veterinary clinic, an education and visitor centre, and a model livestock farm. In addition, it has CCF Bush (PTY) Ltd., a business imitative that restores habitat while producing an eco-friendly fuel log.

II. ORGANISATIONAL STRUCTURE

The Cheetah Conservation Fund is an international organisation with registered not-for-profit organisations in Namibia, the United States, Canada, United Kingdom, and Japan, and with partner fundraising organisations in the Netherlands, Italy, and Germany.

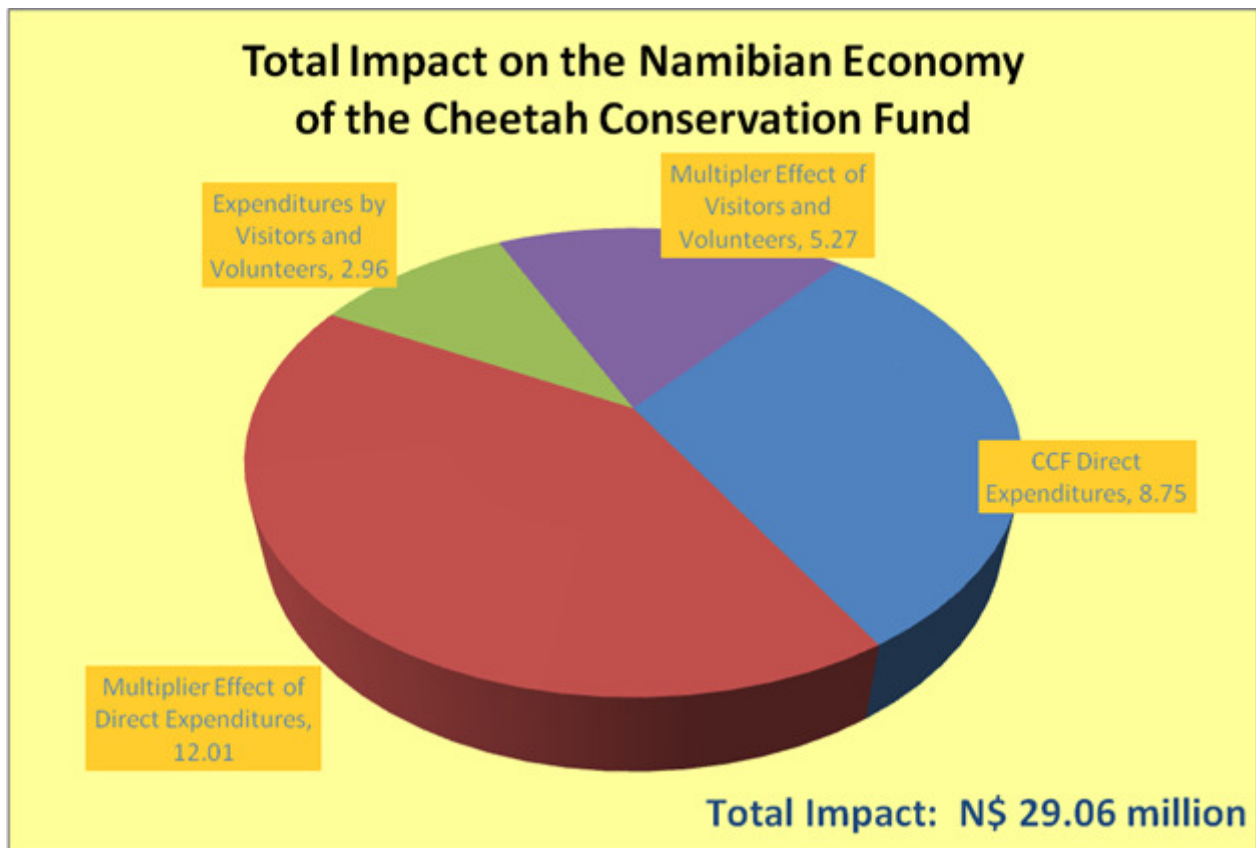
CCF's International Research and Education Centre in Namibia is the primary base for all CCF's global activities. In 1991 CCF became a Namibian Voluntary Trust and in 2002 registered as a not-for-profit Namibian Section 21 Company. CCF's Namibian Board of Directors is comprised of leaders in the local community, business and agricultural sectors. Additionally, there is an International Scientific Board of Advisors that assists in planning and advising on research projects. CCF's Executive Director, Dr. Laurie Marker, is assisted in the management and operations of CCF by a core professional staff, and aided by short-term volunteers and students who assist with daily operations and data collection.

The Centre includes: the farms Elandsvreugde, Osonanga, Boskop (Khayam's Kopje), Cheetah View, Bellebenno, Janhelpman and Bynadar, totalling 46,000 hectares. CCF's Centre is located 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 and models for the farmers that they can live harmoniously with cheetah.

CCF is an active member of the Waterberg Conservancy, which buttresses up to CCF's property and encompasses over 175,000 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 land's wildlife for long-term sustainability, which in turn provides habitat and prey base for the cheetah.

This year, CCF asked economists at the Bureau of Business Research [www.bbr.unl.edu] at the University of Nebraska-Lincoln to prepare an assessment of the economic impact of CCF's operations. The study measured the economic impact of CCF due both to on-site spending that supports research, conservation, and education and to off-site spending throughout Namibia by visitors and volunteers coming to CCF. The principal findings of this study are that the economic impact of CCF on Namibia in 2007 was N\$29.1 million overall, including the impact from CCF and visitors spending and does not capture impacts from improved conservation and land management. There are 166 jobs associated with this impact. The largest portion of this impact from spending is due to the operations of CCF itself in terms of research, conservation, education and agriculture. This result reflects the key role that research and conservation and education can play in generating an economic impact for Namibia. For the full report, please see Appendix 1.



III. RESEARCH

During 2009, CCF continued working towards achieving its research objectives and strengthened collaborative efforts. Research continued on over-all health, gastritis and reproduction studies, as well as censuses and re-introduction of cheetah.

A. Population Biology

In 2009, CCF worked on 61 (26M, 35F) captive and wild cheetahs, with several of them undergoing anaesthesia multiple times during the year, for a total of 77 exams. Of these, 47 (18M, 29F) were captive animals that underwent annual exams, 6 exams were on 5 (3M, 2F) wild caught and released, 4 (2M, 2F) necropsies performed, 15 health related exams were performed on 9 (5M, 4F) captive cheetahs, and 5 (3M, 2F) were wild caught or confiscated and remain in captivity due to age when orphaned or health issues. All resident cheetahs were de-wormed in March.

1. Captive Cheetahs

Five more captive cheetahs came to CCF during 2009 (3M, 2F).

In January, CCF collected one female cheetah (AJU-1578, Bella) from Okahandja. She had been held in a chicken cage for roughly one month before the farmer, Mr. F. Rogul, confiscated her in October 2008, and cared for her before phoning CCF to collect her. Bella has been held captive since she was approximately two months of age and is now quite habituated around people.

In mid July, CCF staff received a call that AJU-1555, a collared female, was found caught in a cattle fence in Okahandja and died due to extensive damage to her abdomen caused by the fence. At the time of her death, data from her satellite collar implied that she had a new litter of cubs. The farmer confirmed that he and his staff had seen four very young cubs near the fence where she had been caught. CCF staff was able to trap all four cubs, and brought them to the centre for exams. During these exams, CCF staff was able to acquire blood and place transponders in three of the cubs (AJU-1580M Tony, AJU-1582F Polly, and AJU-1583M Phil) without anaesthesia. AJU-1581M Mischief had sustained an injury while in the trap cage, and required anaesthesia to suture an open wound on the front right chest. The wound has hence healed as did his sibling's AJU-1583M Phil shoulder injury that occurred after one month captivity. The care of all four cubs is under the supervision of LSGD programme leader Gail Potgieter.

In addition, at the end of June CCF retrieved two female cheetahs (AJU-1340 Misty and AJU-1355 Rosy) that were being held in NamibRand's captive facility, and have now rejoined the females at CCF's 64-ha Bellebenno area.

Fourteen of CCF's orphan, non-releasable cheetahs are slated to be exported to the United States pending Namibian export permit. A US import permit has been issued and is being renewed.

At the end of December 2008 – CCF was holding 48 (20M, 28F) cheetahs at its Centre. By the end of December 2009, this number has increased to 52 (22M, 30F).

Table: New captive cheetahs.

<u>AJU</u>	<u>Sex</u>	<u>Date of Arrival</u>	<u>Comment</u>
1578	F	15-Jan-09	Bella - orphaned at 3 months of age, arrived at CCF at 6 months of age
1580	M	11-Jul-09	Tony - orphaned at 2.5 months of age, mother is AJU 1555 (see death notes)

1581	M	11-Jul-09	Mischief - orphaned at 2.5 months of age, mother is AJU 1555 (see death notes)
1582	F	11-Jul-09	Polly - orphaned at 2.5 months of age, mother is AJU 1555 (see death notes)
1583	M	11-Jul-09	Phil - orphaned at 2.5 months of age, mother is AJU 1555 (see death notes)

2. Releases

A total of 12 (6M, 6F) cheetahs were released during this reporting period (see chart below). 7 (3M, 4F) of these cheetahs were released into NamibRand Nature Reserve; AJU-1350M's collar was removed, then re-released, AJU-1576F was fitted with a GPS collar (previously fitted on AJU-1350M) and released with her 3 cubs (AJU-1574M, 1575M, and 1577F), both females AJU-1506 and 1507 were fitted with a GPS collar. 5 (3M, 2F) were released on CCF property after health exams were performed.

In early August, traps were placed around CCF farm Elandsvregde in order to place a GPS collar on AJU-1543, one of 2 male 'resident' wild cheetahs. Prior to release back on Elandsvregde, both AJU-1542 and 1543 were trapped, examined, their sperm collected, and a collar was placed on 1543.

During mid-November, CCF staff received a call from the Hochfeld region regarding a mother and two cubs that had been seen consuming a calf. Once all three had been captured and examined, CCF was able to determine why they had been actively hunting livestock. The mother (AJU-1585) was an older cat, age estimated at 10 years, with a broken toe, and poor teeth. All three were in poor condition upon arrival, alluding that the mother had been injured prior to being caught in the trap cage. CCF held them for three weeks while the mother recovered from surgery; her broken toe had been amputated by visiting Windhoek vet Dr. Minty Soni, while her teeth were treated by Dr. Profitt. During that time mother and cubs' condition improved greatly, and were released on CCF property.

Through our years of experience, we have found that animals that catch livestock often have a medical or behavioural problem. With immediate medical care the situation can often be reversed, thus reducing the farmers' losses and providing a way forward for the cheetahs. We will continue working with farmers toward the realization of these and other patterns.

Table: Summary of cheetahs released by CCF.

AJU	Sex	Date of Release	Comment
1350	M	5-Jan-09	Removal of GPS collar - Re-released in NamibRand
1576	F	8-Jan-09	GPS collar placed; released in NamibRand with 3 cubs 1574, 1575, and 1577
1574	M	8-Jan-09	NamibRand release with mother 1576 and siblings 1575M and 1577F
1575	M	8-Jan-09	NamibRand release with mother 1576 and siblings 1574M and 1577F
1577	F	8-Jan-09	NamibRand release with mother 1576 and siblings 1574M and 1575M
1506	F	24-May-09	Radio Collar placed; released in NamibRand with 1507F
1507	F	24-May-09	GPS collar placed; released in NamibRand with 1506F
1542	M	10-Aug-09	EEJ; released on CCF farm Osonanga with 1543
1543	M	10-Aug-09	EEJ, GPS collar placed; released on CCF farm Osonanga with 1542
1585	F	17-Nov-09	Released on CCF farm Osonanga with cubs 1586 and 1587
1586	M	17-Nov-09	Released on CCF farm Osonanga with 1585 and 1587
1587	F	17-Nov-09	Released on CCF farm Osonanga with 1585 and 1586

3. Dental Work, Surgeries and General Health

Between 01 January and 31 December 2009, a total of 9 (5M, 4F) cheetahs were anesthetized in house or sent to Otjiwarongo for either surgery with Dr. Hartmann or dental work with Dr. Profitt for a total of 15 interventions.

Table: Cheetah procedures at CCF.

AJU	Sex	Date of Exam	Comment
1214	M	10-Apr-09	Right Rear Femur fractured during darting for annuals; plate and screws fitted
1214	M	27-Apr-09	Right Rear Femur fracture complications; radio-graph showed plate and screws did not set, fracture continued up femur; euthanized due to poor quality of life; necropsy performed
1441	F	10-Mar-09	Stitched two wounds; Left flank and anterior Right rear leg
1042	F	28-Apr-09	Removed fistula in gums caused by bone fragments
1180	M	29-Apr-09	Removed upper Left molar; gum recession exposed roots
1493	F	7-May-09	Root canal
1042	F	1-Jul-09	Residual infection from fistula on 28-Apr-09; on anaesthesia constantly for 5 days
1042	F	6-Jul-09	Final day on anaesthesia from residual infection
1581	M	1-Aug-09	Re-sutured pre-existing wound on front right chest
1583	M	25-Aug-09	Sutured wound on right elbow
1585	F	31-Oct-09	Surgery - amputation of most lateral toe on left hind foot
1585	F	5-Nov-09	Root canal
1245	M	17-Nov-09	Skin biopsies taken on rear left leg and front left leg
1245	M	12-Dec-09	Tissue cultures, tissue biopsies, and swabs for aerobic and anaerobic cultures taken as previous test results (from biopsies taken 17-Nov) came back unclear
1245	M	17-Dec-09	Upper Left Incisors 2&3 removed

Captive cheetahs AJU-1180M, 1441F, and 1493F have recovered completely from their dental work or sutures. Captive male AJU-1214's surgery was unsuccessful and was euthanized; see below section Deaths and Necropsies for further details. Captive female AJU-1042 underwent two dental visits; the initial visit was to remove a fistula in her gums caused by bone fragments. The second visit was to treat for residual infection from the fistula, and was kept on anaesthesia for six days under constant supervision by CCF staff and volunteers to ensure the infection was cleared. AJU-1042 is currently under constant monitoring and doing well.

Newly captive males AJU-1581 and 1583 needed sutures during their first month of captivity; AJU-1581's injury occurred while in the trap cage, and needed re-sutured due to the location, while AJU-1583's laceration to the front right elbow occurred while in current pen, caused by unknown circumstances. Both males' wounds have healed completely, and are adjusting well to captivity.

Wild female AJU-1585, an elderly cat, was caught due to livestock loss, which most likely was caused by her broken toe and tooth. After her initial exam, measures were taken to amputate her broken toe, and take her into town for dental work. AJU-1585's recovery was speedy and successful, 1585 along with her two cubs 1586 and 1587 remained in quarantine for just under 3 weeks before release.

Captive male AJU-1245 has undergone multiple anaesthetics to determine the cause of hair loss and infection on his rear left leg and front left leg, as well as some needed dental work. Lab results indicated multiple bacterial infections, and helped determine best choice for antibiotics. With antibiotics, AJU-1245's infections have begun to clear, and remains healthy otherwise.

4. Deaths, Euthanasia, and Necropsies

During this period, 4 necropsies (2M, 2F) were performed on two captive males and two wild females as follows:

Table: Summary of necropsies and dead cheetahs.

AJU	Sex	Date of Death	Comment
1214	M	27-Apr-09	Euthanasia - poor quality of life; unsuccessful surgery - Necropsy 27-Apr-09
1507	F	1-Jun-09	Killed by Spotted Hyena - body returned to CCF for possible necropsy
1555	F	6-Jul-09	Caught in cattle fence, extensive damage to abdomen, mother of new captive cheetahs 1580, 1581, 1582, and 1583 - Necropsy 10-Jul-09
1579	F	2008	Amani Lodge captive cheetah, euthanasia due to multiple seizures - Necropsy 15-Apr-09
1584	M	29-Sep-09	Wild cheetah hit by car near Waterberg Plateau Park - euthanasia due to extensive damage to spine - Necropsy 29-Sep-09

In April of 2009, captive male AJU-1214 was darted for annual exams. The dart entered into his rear right femur, causing it to fracture. Dr. Hartman in Otjiwarongo performed a six-hour surgery, attempting to attach the fractured femur to a plate. Unfortunately due to the location and condition of the fracture, the plate did not adhere to the bone, and the fracture continued up the femur. Quality of life was brought into question and euthanasia was decided. A necropsy was performed to determine the degree of the fracture, which was determined severe as several pieces of bone had detached causing swelling in the lower portion of the leg.

Also in April of 2009, CCF staff was asked to perform a necropsy on Amani Lodge's captive female, AJU-1579, who had been euthanized in 2008 due to multiple seizures. Samples were taken and sent in for analysis; we are currently waiting for the results.

In July 2009, farmer Mr. Cochland outside of Okahandja found collared female AJU-1555 caught in his cattle fence. Unfortunately, her condition was beyond aid and she died shortly after Mr. Cochland's attempt to free her. Due to her satellite information, CCF estimated she had young cubs. Mr. Cochland and his workers confirmed there were four cubs in the area. AJU-1555's body was taken back to CCF centre where a necropsy was performed, and cubs AJU-1580, 1581, 1582, 1583 were captured and also brought back to CCF, where they remain today.

In September 2009, CCF received a call regarding a cheetah that had been struck by a car near the Waterberg Plateau Park. When staff appeared at the accident, it was observed that the spinal cord had been too severely damaged and the animal, AJU-1584M, was euthanized before being brought back to the Centre for a necropsy.

Finally, in June 2009, AJU-1507 was found dead, most likely due to a Spotted Hyena attack. She was fitted with a GPS collar before her release, and through monitoring it was observed she was not hunting on her own. CCF staff left a springbok carcass by the waterhole she had been using, and she was seen

taking it into the mountains. She was found dead the following day; the condition her remains were found in suggests Spotted Hyena as another cheetah in the area had also been attacked and killed in the same manner. Her remains were returned to CCF for a possibly necropsy at a later date.

B. Health and Reproduction

All cheetahs handled by CCF, both captive and wild, are assessed using standard protocols for overall health as well as, in the case of males, reproductive fitness in the form of semen collection, assessment and, where possible, banking in the Genome Resource Bank (GRB).

1. Annual Physicals of CCF captive cheetahs

Between the dates of March 30th and April 18th, annual physical examinations were conducted on 45 of CCF's resident cheetahs. Dr. Carlos Sanchez, Associate Veterinarian from the Smithsonian Institution's National Zoo, Dr. Margarita Woc-Colburn, NZP veterinary resident, and reproductive physiologist, Dr. Adrienne Crosier, along with CCF staff members and volunteers, worked together to anaesthetize each cat and do a complete health check-up. This included weighing and measuring, blood, semen, skin and hair collection, abdominal ultrasound, endoscopies, and vaccinations. The aesthetic combination of dexmedetomidine/butorphanol/midazolam was successfully tested on 21 cheetahs.

2. Health Issues – Gastritis

Internationally, cheetahs suffer from gastritis, an inflammation of the stomach that is caused by spiral bacteria and impacts negatively on the animal's health. Stress is implicated as one of the possible causes of this disease. The long-term research into the causes, levels and effects of gastritis in cheetah continued with the annual collections on CCF's cheetah in April in collaboration with Drs. Linda Munson and Karen Terio (University of California, Davis), and Dr. Scott Citino from the White Oak Conservation Center.

All CCF's animals were endoscoped to monitor presence or absence of gastritis. CCF's cheetahs are very healthy and provide a baseline.

Drs. Carlos Sanchez, veterinarian from the Smithsonian Institution's National Zoological Park (USA) performed the endoscopies on the resident cheetahs.

Along with the endoscopies, fourteen days of faecal samples are collected on each of CCF's cheetahs and processed and shipped to the US to evaluate Cortisol levels. The samples were collected between the months of March and May.

3. Genome Resource Bank

Since 2002, a total of 286 semen collections have been added to the CCF Genome Resource Bank (GRB). Between 01 January and 31 December of 2009, four semen collections were banked into the CCF GRB. The CCF GRB now contains a total of 290 cryo-preserved sperm samples from captive and wild cheetahs in Namibia, representing 87 individual cheetahs.

The last half of the year's collections came from two wild males, and two resident captive cheetahs. A total of sixteen electro-ejaculations were performed on 13 resident captive males and 2 wild males, in conjunction with Smithsonian National Institute. During this time, Dr. Adrienne Crosier from the

Smithsonian's National Zoo, conducted on-going studies during CCF's annual exams on the preservation and thawing of cheetah sperm. The sperm of 12 captive males was used for research criteria by Kimberly Terrell's PhD paper entitled "*Oxidative Metabolism is Required for Sperm Motility and Viability in Felids, but may be Impaired in Cheetah (Acinonyx jubatus) Ejaculate.*"

CCF continues to bank serum, white and red blood cells and skin samples on all cheetahs. Currently the GRB holds well over 1600 samples, with back up samples held at both CCF as well as at the National Cancer Institute in Washington, DC. With the creation of CCF's genetics lab, most samples will be held at CCF.

4. Genetic Lab

With the opening of the Applied Biosystems Genetic Conservation Laboratory and the addition of a genetics laboratory for non-invasive samples (scat, hair, museum samples) in the first half of the year, the genetic work at CCF was finally ready for genetic work. A major event in the second half of the year was the addition of laboratory technician Tusnelde Mwaningange to the staff of the genetics laboratory. She joined the laboratory in August of 2009 and is doing excellent work. Staff member Fabiano Ezekiel continues to pursue the course work of his genetics PhD at the Brazilian PUCR University under the supervision of our collaborator Dr. Eduardo Eizirik. The laboratory continues to be led by geneticist Dr. Anne Schmidt-Küntzel, who was trained at the laboratory of Dr. Stephen O'Brien at the National Cancer Institute in the United States.

The genetic work presently mainly consists of DNA extractions from blood samples stored at CCF, and development of a multiplex (a multiplex allows to work on several markers simultaneously). Three collaborations were started this year: DNA was extracted from 49 buffalo blood samples with WWF and the Namibian Ministry of Environment and Tourism, and a new agreement was made for future work. In the scope of a collaboration with the research centre of Ongava Wildlife Reserve, Master student Abigail Guerier visited the laboratory on a regular basis, and genotyping in black rhinoceros was performed in order to identify paternities and maternities; this project is expected to be completed in 2010. Over 1000 carnivore scat samples were collected in 2009 in the scope of an ongoing collaboration with Dr. Eduardo Eizirik on carnivore diversity; the samples were collected with the help of CCF staff, Earth Watch volunteers, interns, working guests, and collaborators. In November of 2009 Anne travelled to Brazil for a period of 10 days in order to further the collaboration and perform data analysis. For a CCF project started in July of 2008, over 200 potential cheetah samples were found on the daily scat collection around the CCF centre. The samples mainly target two cheetah males which have been defecating around the CCF centre on a regular basis, since they are attracted by the captive cheetahs; the samples will be used for a long term study of wild cheetahs including diet and hormone analysis.

Another big event at the genetics laboratory was the arrival of scat sniffing dog Finn in May. Finn is now continuing his training and field work here at CCF, alongside one-year-old Isha, an Anatolian Shepherd dog born at CCF, which started being trained in the beginning of 2009. Both dogs will help the genetics laboratory to obtain valuable cheetah scat samples from areas for which no samples are available yet, and they will help with sample collection for scat based cheetah census.

C. Large Carnivore Research and Ecology

1. Cheetah Census

Range-wide population estimates for cheetahs are critical for their conservation, but they are particularly difficult to study since cheetahs are highly secretive with widespread home ranges. CCF continues its census research using non-invasive photographic captures via camera traps. In addition, CCF has placed GSM collars on several cheetahs in the Waterberg Conservancy area.

CCF's objective is to replicate camera trap surveys for establishing technique reliability and to conduct surveys in other parts of the country to acquire further knowledge of the species abundance in the country. Early in 2009, under the direction of Matti Nghikembua, CCF and volunteers started the fourth year of camera-trap census research, which lasted three months.

This programme has now concluded, and CCF's Research staff analysed data collected from two studies conducted in 2008: one around CCF's Centre and the Waterberg Conservancy and the other in the Sandveld conservancy, 200km south. Preliminary findings indicate that habitat quality is an important factor in cheetah habitat suitability; the photographs showed the cheetahs were most active in locations near habitat edges, such as open grassland with open thorn bush savannas, and that this same area offered the highest diversity of small, medium, and large prey species. Additionally, the cameras showed that only 33% of the individual cheetahs noted in the 2007 survey were present although the density of the cheetah population appears consistent with previous years.

In addition, we conducted parasite surveys on our cheetahs, livestock, and wild game to examine the overlapping health issues and parasite load of our animals. We also continued the on-going cheetah diet analysis, through studying the hairs of their prey extracted from scat samples. Scat has also been used for reproductive and stress hormone evaluation; and Jourdan Brune, a student from Washington State University, has re-started our endocrine laboratory.

A paper entitled *Estimating cheetah abundance and density using remote camera trapping in north-central Namibia* is being prepared for submission to the Journal of Animal Conservation in late 2009.

2. Re-introduction and Behaviour

CCF has conducted research on re-introductions and is currently conducting their third project. There is not a lot of suitable habitat due to the extent of land under livestock production, and habituated cheetahs need large uninhabited areas. NamibRand is ideally suited for this long-term re-introduction project. It is recognized that re-introductions are not simple. It's very important to closely monitor the behaviours of the individual cats to ensure their health and adaptation to their new environment.

The NamibRand Programme

CCF's cooperative re-introduction programme with NamibRand and the Ministry of Environment and Tourism (MET) continued in 2009. During this period, CCF released six more cheetahs (2M, 4F) into the NamibRand Nature Reserve, where they joined the five males re-released in December 2008. In June, the two captive females (AJU-1340 & 1355) CCF had sent down in December 2008 were transported back to CCF. The females had been placed in the 50-ha enclosure as lures to keep the five re-released males from wandering over the mountain range where livestock farms occur.

These male cheetahs (AJU-1326, 1327, 1347, 1350, and 1353) were radio tracked daily by CCF staff, and by early March 2009, were observed hunting on their own, thus making supplementary feeding no longer necessary. They have hunted a variety of game animals (Oryx, hartebeest, blesbok, springbok, and zebra) and have remained within the reserve boundaries. In addition, satellite collars assist with weekly reporting of the locations of these cheetahs and since June, 2009 they are being tracked regularly by a Polytechnic

of Namibia student and staff members of the conservation organization N/a'an ku se, which has taken out a tourism concession with the NamibRand to track these cheetahs.

In January, a female (AJU1576) with three (2M.1F) nearly independent cubs (AJU1574, 1575, 1577) estimated at 1 ½ years of age, were released at the Namib Rand. All four of these cheetahs have been seen with the five male cheetahs, and the cubs have dispersed from the female shortly after release. Based on satellite data collected in June, the female (AJU-1576) was thought to be pregnant, and in December was spotted with one cub most likely sired by one of CCF's five males.

In the end of May 2009, CCF released two orphan captive female cheetahs, AJU-1506 and 1507, into NamibRand. AJU-1506 was fitted with a radio collar and has been seen in good health. Although no kill sites have been located, it is assumed she is hunting for herself. In June 2009, the collar stopped working and CCF was unable to document her location, however, N/a'an ku se's staff members have reported seeing her in close proximity of the male cheetahs. She is still on the reserve and surviving on her own. The second female AJU-1507, fitted with a satellite collar, was found dead on 1 June, 2009, most likely due to a spotted hyena attack. See section Deaths, Euthanasia, and Necropsies for further details.

The evolution of the male's hunting methods has been a key element to the research and information gathered by CCF. Instinct has played a key role in their advancement and slowly but surely their skills have improved to an almost "professional" cheetah level. Interestingly, of all the kills witnessed, one of the males, Kia, has been making most the kills despite the team effort. They have developed "strategies" and other methods of hunting that have proved to be successful. While still far from "pack" hunting, they are working together, and their technique of chasing herds, as opposed to individuals, has provided them with a much higher rate of success. They have acquired a diet consisting mainly of young Oryx. Oryx is quite a large-sized prey for a cheetah, but it provides days of nourishment for all five of the males. They have also had success with springbok, hartebeest, young zebra and blesbok, which the Reserve is trying to remove altogether. More recently, it appears as if Kia's success has started to finally encourage the others, as evidence has been found suggesting he is not the only one hunting.

Monitoring these animals has provided great insights to cheetah behaviours, particularly the evolution of males' hunting abilities and the development of cooperative "strategies" to achieve a greater success rate. As a result, CCF is making plans to release –on an interim basis—several animals within the semi-controlled environment of CCF's 4,000-ha Bellebenno Game Camp, to give the animals an opportunity to develop their predation skills before being reintroduced to the wild in suitable habitat. Habituated cheetahs of an appropriate age will be radio-collared and tracked fulltime within this game camp. We envision that this game camp will serve as a halfway stage where cheetahs will learn how to hunt prior to re-introduction into the wild at the NamibRand or other suitable areas.

D. Ecosystem Research

1. Weather Monitoring

As 70% of the country's game inhabits farmlands, assessment of the Namibian farmland ecosystem for long-term habitat viability for the cheetah and its prey is part of CCF's primary, ongoing research. We have continued and expanded the rainfall data collected on our farms, placing more rain gauges around. In addition, collecting high and low temperature readings each day has begun. CCF had good rains this year, averaging 331.98 mm over the season and all dams had good levels of water by the end of the year. This is a difference over last year, when all dams were dry and CCF was in an extreme water shortage.

2. Game Monitoring and Prey Habitat Preferences

CCF's long-term wildlife monitoring programme continues. The research conducted on CCF farms is designed to understand patterns and trends of game density, movements, demographics and habitat utilisation.

Earthwatch volunteers assist with this research. The monthly monitoring involves visual road counts, tracking and counting spoor, categorizing vegetations, densities, and distributions. This information is correlated with data collected on rainfall and temperature.

CCF Circuit Counts A & B

Since 1996, CCF has been conducting a 55km road strip count transect on farm Elandsvreugde to investigate game distribution in relation to habitat type and trends in density.

During the year, a total of 40 game counts were conducted on circuits A & B. Of these, 19 were conducted between January and June, and the remaining 21 in the second half of 2009.

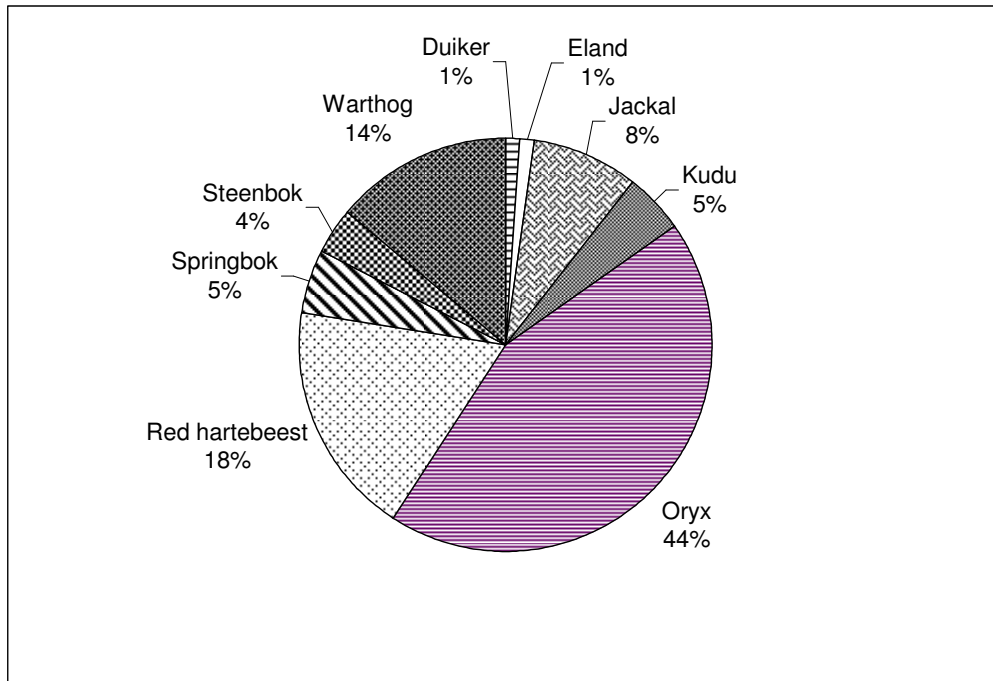


Figure 1. Actual number of game distribution per 27 km game count transect during 2009.

During 2009, an average number of 33.13 ± 11.99 sightings of the nine common species were encountered per 27 km transect, showing a 21% overall decline from the 42.13 ± 14.21 individuals in 2008. Species encountered with a high frequency consisted of the Oryx, red hartebeest and warthog (Figure 1, Table 1). The actual number of individuals sighted, with the exception of the duiker and kudu, declined slightly in 2009.

Table 1. Actual number of animals observed on the CCF circuits A & B in 2009.

Common name	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eland	0	1	0	11.7	3	22.5	27.00	5.67	3	0.00	0.25	1

Jackal	3.33	5.667	2.5	6.33	3.25	5.5	4.75	3	2.25	1.67	2.75	4.67
Kudu	5.33	0.00	0.50	1.67	1.5	9.00	4.50	8.67	1.75	7.67	17.75	2.33
Oryx	107	151	87.3	91.7	25.3	89	42.5	74.3	48.8	110	116	126
Red hartebeest	37	113.3	45.8	32.7	17.5	15.5	44	14.3	9	24.3	34	78.3
Springbok	3.33	2.33	2.5	3.67	0.25	3.5	3.25	18.3	12.5	10.3	12.5	35.3
Warthog	22	19.67	5.25	20.7	4.25	12	2.5	10.7	4.75	11	12.8	17.7

Analysis of the CCF circuit counts (Figure 2 and Figure 3) showed an overall decline of common species (Table1) from 681.37 ind/1000 ha to 427.29 ind/1000 ha between 2008 and 2009 years, respectively. Species found in highest densities included the Oryx, red hartebeest, warthog and kudu (Figure 2, Table 2). The mean densities of all species counted were highest between January and April - the hot and wet season, and declined between May and August, the dry and cold season.

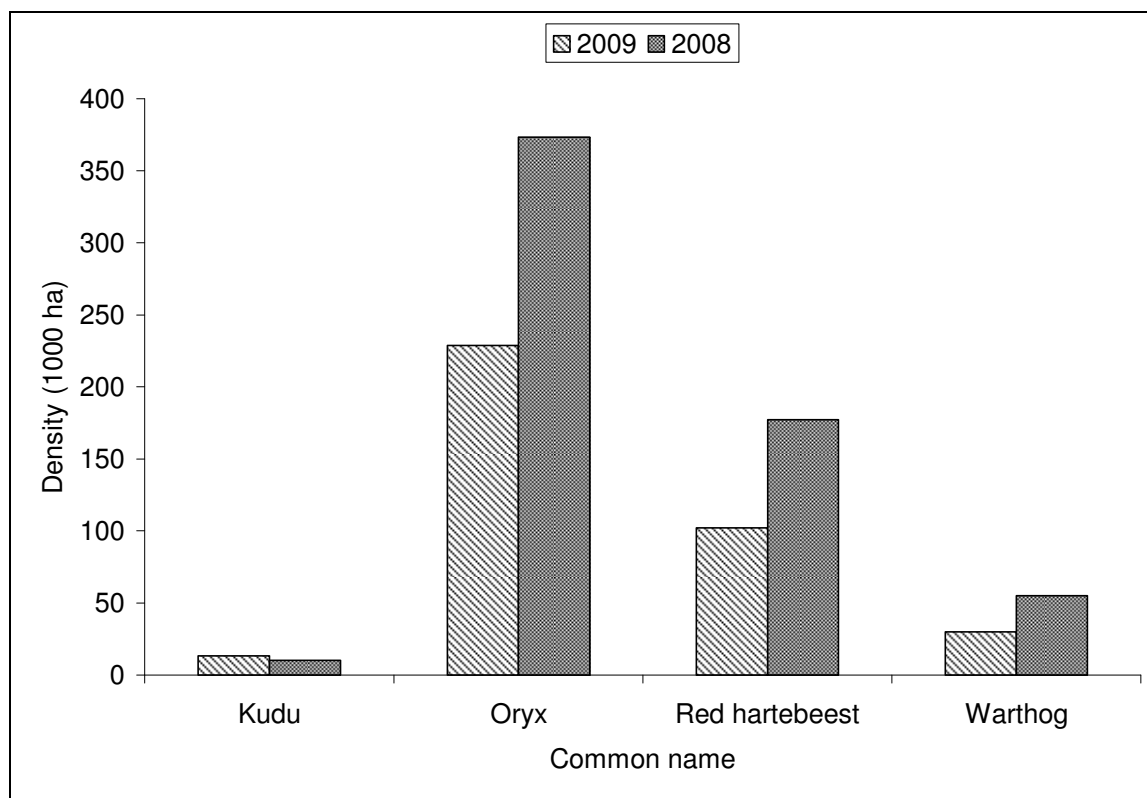


Figure 2. Density per 1000ha of common wildlife species observed on farm Elandsvreugde during the 2008 – 2009 circuit counts (A & B).

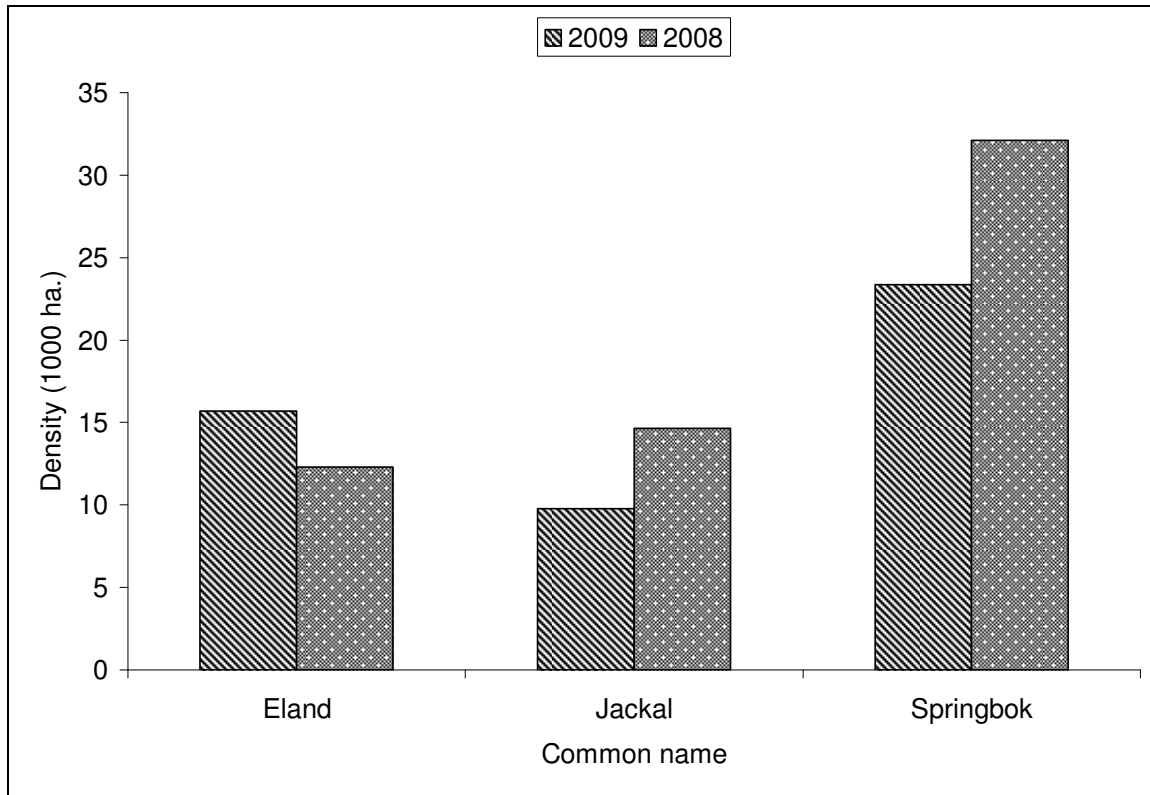


Figure 3. Density per 1000 ha of the most common wildlife species observed on farm Elandsvreugde during the 2008 – 2009 circuit counts (A & B).

Table 2. Density (1,000 ha) of the most common wildlife species observed on CCF’s circuits A & B in 2009.

Common name	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eland	0	2.66	0	31	7.98	59.8	71.8	15.1	7.98	0	0.66	2.66
Jackal	8.87	15.07	6.65	16.8	8.64	14.6	12.6	7.98	5.98	4.43	7.31	12.4
Kudu	14.2	0	1.33	4.43	3.99	23.9	12	23	4.65	20.4	47.2	6.21
Oryx	285	401.6	232	244	67.2	237	113	198	130	293	307	334
Red hartebeest	98.4	301.4	122	86.9	46.5	41.2	117	38.1	23.9	64.7	90.4	208
Springbok	8.87	6.206	6.65	9.75	0.66	9.31	8.64	48.8	33.2	27.5	33.2	94
Warthog	58.5	52.3	14	55	11.3	31.9	6.65	28.4	12.6	29.3	33.9	47

Bellebenno 12-hour Waterhole Counts

To assist in developing a management plan for the 3,650 ha game-fenced Bellebenno camp, CCF has started monthly 12-hour waterhole counts. Earthwatch volunteers and other CCF volunteers assist with these ongoing counts, which involve sitting in a hide at Bellebenno’s four waterholes and counting all the animals that come to the waterhole. Information such as species, age, sex and condition are recorded on standardised sheets. It is also noted whether the animal utilised the waterhole or the salt lick placed at the site. These counts are designed to help us understand patterns and trends in game numbers, such as survival rates in juveniles and sub-adults, and recruitment from one age class to the next.

The counts take place from 6am to 6pm, with two to three counters in each hide. A total of thirteen waterhole counts were conducted over the past 12 months, with five replicates done in the February – June and eight in the July - December periods.

Actual number of animals counted

The actual numbers of animals observed during 2008 and 2009 are shown in figure 4 and table 3 below. During 2009, an average number of 399.45 sightings of different animals were encountered, showing a 36% increase from the 2008 year. Both Oryx and warthog were the most frequently observed species, with the latter showing a significant increase in 2009 ($X^2 = 131.72$, $DF = 1$, $P = < 0.00$). A slight increase in the actual numbers of animals sighted was also observed in the kudu, giraffe and zebra; whereas declines were experienced amongst the eland and red hartebeest (table 3). Overall, few kudu and red hartebeest were observed – a trend which was consistent with the 2008 waterhole counts.

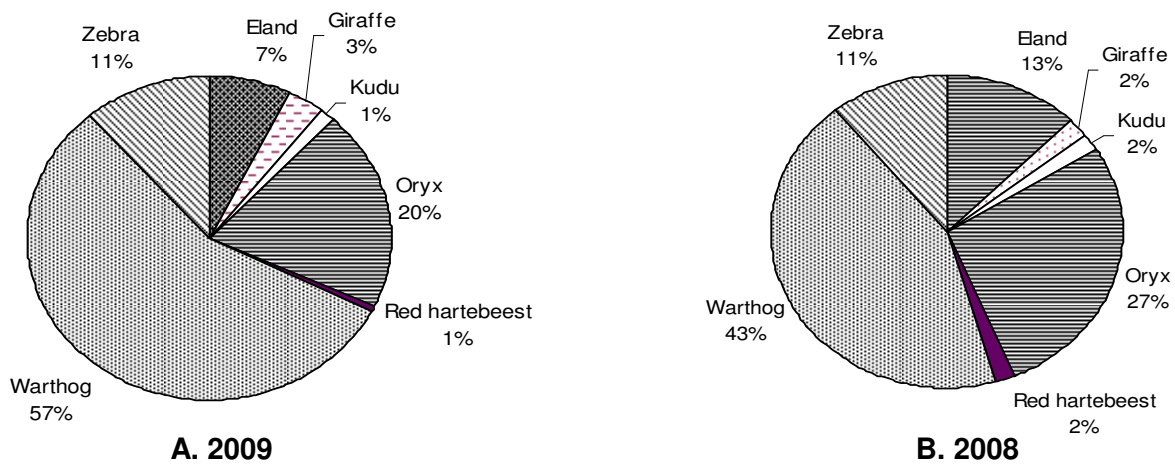


Figure 4. Actual numbers of large game observed in Bellebenno.

Density

Table 3 shows the densities of different species obtained over the past 12 months in the Bellebenno game camp. During 2009, an average number of 292.49 ± 89.07 individuals/ 1000 ha from the seven key species (table 3) were encountered, showing an 81% increase from the 161.89 ± 78.98 ind/1000ha in 2008. Both Oryx and warthog had the highest densities per 1000 ha, with the latter showing a significant increase in 2009 ($X^2 = 48.76$, $DF 1 = P = < 0.00$). The density of kudu has also increased significantly between 2008 and 2009 ($X^2 = 3.81$, $DF 1 = P = 0.05$). Slight increases in densities were also observed in the kudu, giraffe and zebra; whereas declines were experienced amongst the eland and red hartebeest (table 3). Overall, few kudu and red hartebeest were observed – a trend which was consistent with the 2008 waterhole counts. The red hartebeest density was the lowest in the game camp, a trend similar to the 2008 period. The estimate of kudu density was close to the 2009 figure obtained during the 12H00 waterhole counts in the entire Waterberg conservancy (Conservancy estimates: kudu = 10.53 ind/1000 ha.).

Table 3 Actual number of common game species found in the Bellebenno game camp for the period 2008 – 2009.

Common name	Year	Month														% Annual change
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Mean	Stdev	95% CI	
Eland	2009	12	0	0	53	70	31.50	78.00	52.00	20.00	1.00	9.00	29.68	29.02	17.15	-19%
	2008	12			7	35	57.00	97.00	49.00	72.00	2.00	0.00	36.78	34.44	22.50	
Giraffe	2009	8	2	7	35	9	13.00	25.00	11.00	17.00	5.00	21.00	13.91	9.82	5.80	141%
	2008	9			5	8	6.00	8.00	1.00	13.00	0.00	2.00	5.78	4.24	2.77	
Kudu	2009	0	0	3	1	0	9.50	16.00	7.00	10.00	14.00	7.00	6.14	5.80	3.43	30%
	2008	2			16	2	2.00	0.00	8.00	22.00	0.00	0.00	5.78	8.03	5.24	
Oryx	2009	78	140	47	48	39	72.50	103.00	93.00	47.00	158.00	92.00	83.41	39.17	23.15	4%
	2008	4			55	82	132.00	168.00	114.00	150.00	12.00	5.00	80.22	64.38	42.06	
Red hartebeest	2009	3	0	0	0	0	6.00	3.00	0.00	2.00	5.00	11.00	2.73	3.50	2.07	-56%
	2008	4			0	2	3.00	9.00	14.00	12.00	0.00	12.00	6.22	5.54	3.62	
Warthog	2009	129	84	297	407	417	233.50	216.00	232.00	234.50	196.00	132.00	234.36	106.34	62.84	84%
	2008	11			112	186	159.00	164.00	208.00	208.00	95.00	3.00	127.33	78.32	51.17	
Zebra	2009	33	21	12	54	86	48.50	47.00	69.00	106.00	32.00	19.00	47.95	29.38	17.36	50%
	2008	0			25	67	41.00	55.00	34.00	53.00	12.00	0.00	31.89	24.44	15.96	

Table 4. Density (1000 ha.) of common game species found in the Bellebenno game camp for the period 2008 – 2009.

Species	Year	Month														% Annual change
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	Stdev	95% CI	
Eland	2009	6.58	0	0	29.04	38.36	17.26	42.74	28.49	10.96	0.73	4.93	16.28	15.89	9.39	-19%
	2008	6.58			3.84	19.18	31.23	53.15	26.85	39.45	1.10	0.00	20.15	18.87	12.33	
Giraffe	2009	4.38	1.10	5.11	19.18	4.93	7.12	13.7	6.03	9.32	3.65	11.51	7.82	5.23	3.09	186%
	2008	0			2.74	4.38	3.29	4.38	0.55	7.12	0	2.19	2.74	2.37	1.55	
Kudu	2009	4.93	0	2.19	0.55	0.00	17.26	42.74	28.49	10.96	0.73	4.93	10.25	13.98	8.26	224%
	2008	1.10			8.77	1.10	1.10	0.00	4.38	12.05	0.00	0.00	3.17	4.40	2.87	
Oryx	2009	42.74	76.71	34.34	26.30	21.37	39.73	56.44	50.96	25.75	115.43	50.41	49.11	27.21	16.08	11%
	2008	2.19			30.14	44.93	72.33	92.05	62.47	82.19	6.58	5.48	44.26	34.89	22.79	
Red hartebeest	2009	1.64	0	0	0.00	0.00	3.29	1.64	0.00	1.10	3.65	6.03	1.58	1.99	1.18	-62%
	2008	2.19			0.00	1.10	1.64	4.93	7.67	6.58	0.00	13.15	4.14	4.38	2.86	
Warthog	2009	70.68	46.03	216.99	223.01	228.49	228.49	218.08	201.64	209.32	239.63	102.47	180.44	70.83	41.85	158%
	2008	6.03			61.37	101.92	87.12	89.86	113.97	113.97	52.05	3.29	69.95	42.59	27.83	
Zebra	2009	18.08	11.51	8.77	29.59	47.12	26.58	25.75	37.81	58.08	23.38	10.41	27.01	15.61	9.22	55%
	2008	0.00			13.70	36.71	22.47	30.14	18.63	29.04	6.58	0.00	17.47	13.39	8.75	

Annual Waterhole Count and CCF Strip Counts

Annually, for the past 14 years, CCF and Waterberg Conservancy have conducted waterhole counts. In addition, CCF conducts road strip counts before and after the waterhole counts in order to look at the variation between these counting methods. During August 2009, 15 replicate strip counts (x3 per farm) were conducted on CCF farms Bellebenno, Elandsvreugde, Boskop, Cheetah View and Osonanga.

Relative Density Calculations and Estimating Strip Width

Analyses were mainly restricted to five common game species the Oryx, eland, kudu, warthog, and red hartebeest which are used as indicators by the Waterberg Conservancy. All observations near waterholes were excluded from the analysis due to aggregation, consequently avoiding the risk of violating assumptions of randomness.

Density of common game species were determined by using a *fixed* width and *variable* width approach. The *fixed* width was calculated from measuring visibility distance for human subjects along the transects. Human subjects walked into the bush, on a compass bearing perpendicular to the road until they were out of sight from the view of an observer (similar to the viewing conditions during strip counts). Perpendicular distances back to the road were measured using a range finder and averaged. The general correspondence between human and modelled ESW estimators of strip was verified (Table 5).

Table 5 Comparison of different strip width estimators for large and small ungulates with human visibility in the study area. The maximum and mean sighting distances were calculated from the observed distances. The effective strip width (ESW), detection probability (P) and standard errors (SE) were calculated for each farm using the programme DISTANCE version 6. All distances are measured in meters (m.)

Farm	Large game					Small ungulate					Human	
	Max.	Mean	ESW	P	SE	Max.	Mean	ESW	P	SE	Max.	Mean
Bellebenno	150	34.28	55.37	0.37	0.04	150	24.67	28.92	0.19	0.04	151	46.13
Boskop	300	49.75	58.39	0.19	0.02	230	31.22	44.75	0.19	0.02	141	51.5
Cheetah View	200	29.16	31.35	0.16	0.02	70	13.06	3.82	0.05	0.012	69	30.51
Elandsvreugde	1000	162.11	209.45	0.21	0.01	1000	103.84	37.58	0.04	0.003	400	69.55
Osonanga	300	44.38	57.95	0.19	0.01	300	29.54	11.06	0.04	0.01	143	49.32

Density estimates using the variable strip width were determined by following the distance sampling approaches (Buckland et al., 1993). The perpendicular sighting distance from the road from where the animal was first seen was recorded for a subset of the counts, with the majority of the data collected during 2003 - 2006. However, because the sighting distance data was relatively sparse, the sighting data was combined for the larger ungulates (Oryx, kudu, red hartebeest and eland), and the smaller ungulates (springbok, duiker, warthog and steenbok). Sighting distance estimates were calibrated periodically using objective measurements (i.e. estimating distance and checking with a tape measure or by pacing).

Sighting distance data was used to calculate an estimated strip width (ESW), detection probability (P) and associated standard error (SE), based on fitting three candidate estimators - the hazard rate cosine, half normal cosine and uniform cosine using the program DISTANCE 6 (Laake *et al.*, 2009). The estimator model with the lowest Akaike Information Criterion (AIC) was chosen to have the best fit with the data. Due to the relatively sparse distance data, the ESW, detection probability (P), associated SE and Degrees of freedom (DF) values were calculated from the combined distances per animal category (i.e. large, medium, small). These data was used as a multiplier and density estimates were obtained by using the

entire dataset (Laake *et al.*, 2009). Final density estimates were obtained by fitting a uniform - cosine key function to the data with no adjustments terms. All estimates were calculated per 1km² and extrapolated to 100 km², with associated 95% confidence intervals (CI) and standard errors (SE).

Comparisons between strip counts and waterholes counts

Comparisons were restricted to the CCF farms and were not done for the rest of the conservancy. This was due to the fact that the road counts were mainly done on these farms. A test of normality amongst the density estimates was determined using the Kolmogorov-Smirnov test (Norusis, 2000; Tredoux & Durrheim, 2002), warranting the use of applicable statistical test. Linear relationships between the different method estimates were obtained by using spearman correlations. Annual rainfall and the number of waterholes present within the study area were treated as covariates (independent variable) for density (dependent variable). As such, covariate effects on density were investigated for each species and game counting technique using correlation and regression analysis. All statistical inferences were two – tailed (95%, $p < 0.05$).

Preliminary results

A total of 272.67 animals was counted in 2009 and consisted of Oryx 54%, red hartebeest 18%, warthog 11%, kudu 8%, eland 4%, steenbok 3%, jackal 1% and duiker 1%. The highest number of game was observed on farm Elandsvreugde with 69% of the total sightings (Figure 4). Farms such as Boskop, Bellebeno and Osonanga had the second, third and fourth highest number of animals, respectively. Farm Cheetah View supported the least number of game, which consisted mainly of duiker (60%) and steenbok (36%).

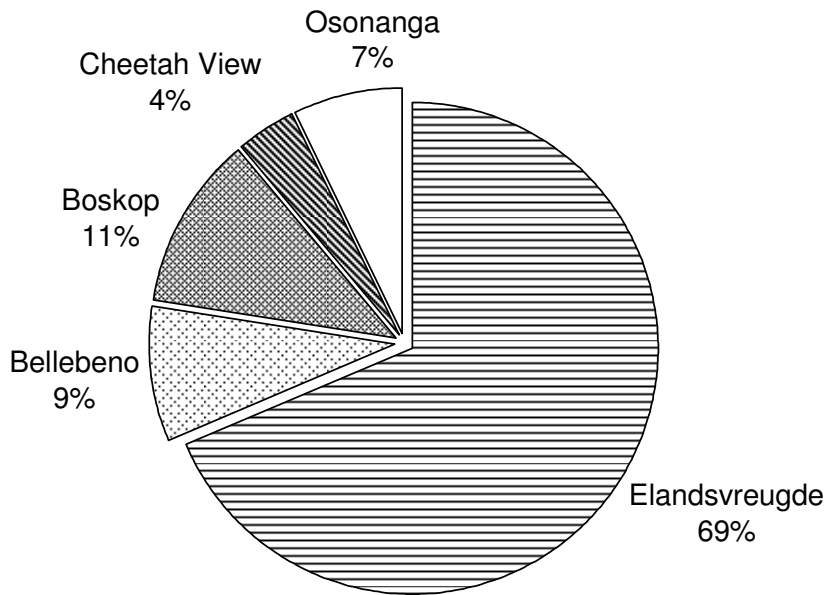


Figure 5. Distribution of actual numbers of animals sighted on CCF farms.

The actual numbers of animals sighted during the strip counts are presented in table 4. Sightings of animals on all CCF farms have declined in 2009 since the 2008 period. The highest declines in sightings were observed in the red hartebeest, jackal and red hartebeest with 78%, 76% and 71%, respectively. The Oryx and eland sightings showed a decline of 40% and 34%, respectively. The kudu sightings were only 3% less from the 2008 period. We could not conclude yet about the actual cause of such decline, however seasonal effects such as rainfall and water availability are may be possible factors. The mean annual

rainfall measured during 2009 before the annual count was 331.98 mm compared to 406.7 mm in the previous season of 2008.

Density

Comparisons of density estimates from different game counting methods are presented in table 6. Density estimates of the Oryx using the fixed strip width and 12H00 waterhole counts were almost similar in 2009. Oryx were estimated to be 90.91 and 88.61 individuals/1000 ha by the fixed width and 12H00 waterhole counts respectively. Interestingly, densities of warthog had a similar trend especially between the fixed strip and variable strip width methods with 33.65 and 30.77 individuals/1000 ha, respectively. With the exception of the Oryx and red hartebeest most waterhole count estimates were higher in all species. The eland density was highest during the 12H00 waterhole counts. Although we do not have conclusive evidence about this finding, possible factors such as long flight distances and activity patterns during the warm time of the day could limit eland detection. In general, density of game from the 12H00 and fixed strip methods are higher than the 24H00 and variable strip count methods. Density estimates from the different methods for species such as the Oryx, red hartebeest and warthog did not show any significant linear relationship since 2003. Density for kudu and eland were significantly linearly related using the fixed and variable strip method (kudu: $r = 0.786$, $p = 0.036$; eland $r = 0.786$, $p = 0.036$). Significant relationships were also found between the 12H00 vs. variable strip method for eland ($r = 0.821$, $p = 0.003$), fixed vs. 24H00 counts for kudu $r = 0.927$, $p = 0.003$ and variable vs. 24H00 counts ($r = 0.927$, $p = 0.003$). These findings have further management implications, especially since density from different methods for most game species cannot be reliably indexed thus a synergy between different methods could provide reliable results in the long-term.

Table 6. Actual number of animals counted during the CCF strip counts (2003 – 2009).

Common name	Farm	Year						
		2003	2004	2005	2006	2007	2008	2009
Duiker	Elandsvreugde	0.67	2.17		0.33	0.80	0.33	
	Bellebenno							0.33
	Boskop	0.17	0.50	0.33		0.80		0.33
	Cheetah View	0.17	0.67	0.33		3.17	1.67	1.00
	Osonanga	0.17	0.67		0.33	0.75	1.67	
	Total	1.17	4.00	0.67	0.67	5.52	3.67	1.67
		2003	2004	2005	2006	2007	2008	2009
Eland	Elandsvreugde		2.33			6.60	14.33	7.33
	Bellebenno			3.50	4.33	47.33	2.33	1.67
	Boskop				1.33			2.00
	Osonanga	0.33	1.67	2.50	1.17	0.75		
	Total	0.33	4.00	6.00	6.83	54.68	16.67	11.00
		2003	2004	2005	2006	2007	2008	2009
Jackal	Elandsvreugde	1.50	10.50	2.83	8.33	8.00	11.00	3.33
	Bellebenno				0.67	0.67	0.67	
	Boskop		0.17		0.83	1.80	3.33	
	Cheetah View	0.67		0.17	0.67			0.33
	Osonanga	0.17	0.17	0.67				
	Total	2.33	10.83	3.67	10.50	10.47	15.00	3.67
		2003	2004	2005	2006	2007	2008	2009
Kudu	Elandsvreugde	5.00	12.00	1.83	3.17	0.20	4.67	5.00
	Bellebenno			1.50	1.33			3.00
	Boskop	7.50	8.67	13.17	5.17	5.80	3.00	1.67

	Cheetah View	8.50	10.17	6.83	6.50	4.67	7.67	2.00
	Osonanga	9.50	12.50	5.67	11.00	5.50	7.67	10.67
	Total	30.50	43.33	29.00	27.17	16.17	23.00	22.33
		2003	2004	2005	2006	2007	2008	2009
Oryx	Elandsvreugde	58.33	154.50	162.50	121.33	103.40	215.00	129.33
	Bellebenno			20.00	14.17	32.67	23.33	10.67
	Boskop	10.50	13.17	8.33	9.33	5.60	2.33	1.67
	Cheetah View	3.83	5.67	2.83	2.33	1.67	2.67	2.00
	Osonanga	15.00	25.83	11.00	6.33	13.25	2.67	3.00
	Total	87.67	199.17	204.67	153.50	156.58	246.00	146.67
		2003	2004	2005	2006	2007	2008	2009
Red hartebeest	Elandsvreugde	35.33	148.50	30.50	110.50	68.40	221.67	32.33
	Bellebenno			1.00		3.67	3.33	
	Boskop	25.00	23.67	2.50	11.17	6.80	1.33	15.00
	Cheetah View	1.67	0.50					
	Osonanga	19.17	7.00	20.83	10.33	8.00		2.67
	Total	81.17	179.67	54.83	132.00	86.87	226.33	50.00
		2003	2004	2005	2006	2007	2008	2009
Warthog	Elandsvreugde	16.17	92.00	50.00	48.67	43.60	71.33	9.00
	Bellebenno			7.00	6.17	22.33	3.33	6.33
	Boskop	6.67	1.50	7.17	4.50	14.20	15.33	9.67
	Cheetah View	2.50	1.50	2.00	1.50	7.17	5.33	2.67
	Osonanga	2.50	3.50	7.67	3.00	8.25	5.33	2.00
	Total	27.83	98.50	73.83	63.83	95.55	100.67	29.67
		2003	2004	2005	2006	2007	2008	2009
Steenbok	Elandsvreugde	7.67	6.33	1.67	0.67	2.60	3.00	0.67
	Bellebenno			3.50	1.83	3.67	3.00	2.67
	Boskop	2.67	1.33	1.83	2.00	4.40	0.67	1.33
	Cheetah View	1.33	1.17	1.67	1.67	4.33	4.33	3.33
	Osonanga	2.50	3.50	4.50	1.33	5.25	4.33	1.33
	Total	14.17	12.33	13.17	7.50	20.25	15.33	9.33

Table 7. Density estimates derived from the strip counts conducted around the annual Waterberg conservancy waterhole counts.

Common name	Game count method	Year						
		2003	2004	2005	2006	2007	2008	2009
Eland	12H00_counts	48.00	14.25	35.14	63.78	104.16	54.36	48.66
	24H00_counts	15.41	11.63	24.25	55.06			
	Fixed strip density	1.81	7.01	16.76	12.54	114.96	26.96	14.69
	Variable strip density	0.84	1.32	9.82	20.09	25.67	9.86	7.62
Kudu	12H00_counts	39.45	36.78	15.48	36.81	28.51	23.66	42.71
	24H00_counts	22.27	22.78	11.43	20.55			
	Fixed strip density	44.13	57.15	34.06	31.72	27.59	31.31	24.71
	Variable strip density	17.90	20.94	16.03	19.97	9.38	6.57	7.32
Oryx	12H00_counts	30.21	30.82	84.63	42.11	145.04	60.36	88.61
	24H00_counts	43.94	24.53	45.49	29.88			
	Fixed strip density	73.09	146.52	117.45	88.24	152.57	152.37	90.91

	Variable strip density	35.79	41.42	50.45	120.32	124.44	61.17	43.63
Red hartebeest	12H00_counts	35.45	41.42	29.68	29.19	44.52	120.65	14.82
	24H00_counts	35.50	20.10	16.76	14.79			
	Fixed strip density	79.41	118.98	49.00	115.59	79.05	196.63	64.74
	Variable strip density	15.30	16.84	15.32	18.07	29.71	10.47	6.41
Warthog	12H00_counts	60.25	35.80	81.47	75.75	122.04	99.48	157.48
	24H00_counts	39.29	23.16	29.06	39.72			
	Fixed strip density	25.91	59.07	48.33	38.22	102.73	58.83	33.65
	Variable strip density	45.32	108.68	88.21	107.05	133.68	30.53	30.77

The third weekend of August brought together more than 50 volunteers to conduct the **Waterberg Conservancy 14th Annual Waterhole Count**. This was the 3rd year that the count was done during the new moon and lasted 12 hours. Volunteers were stationed at 24 waterholes (spread over 8 farms: 42355 ha) to count whatever wildlife appeared during the 12-hour period. CCF continues to be responsible for conducting volunteer orientation, preparing record sheets and identification guides, and for transporting volunteers. Assisting with the count were Earthwatch, Peace Corps volunteers, CCF Namibian's and international interns, Otjiwarongo Arts centre and community game guards from the Ozonahi and Okamatapati conservancies.

Figure 6 shows the annual densities based on the waterhole counts conducted during the past 15 years. Densities and rainfall have fluctuated over time with populations showing an increase after one or two years of good rains. Fluctuations are also due to the changes in the number of farms (i.e. surface area) and waterholes counted annually. It can be observed that all species appear to have increased since the 2006 raining season (Figure 6). Overall average density for the five species in 2009 (73.84 ± 34.44) were slightly higher than those for 2008 ($25.05 \pm 15.60/1000\text{ha}$). Figure 7 shows the average density per species for the last three years 12 hours waterhole counts.

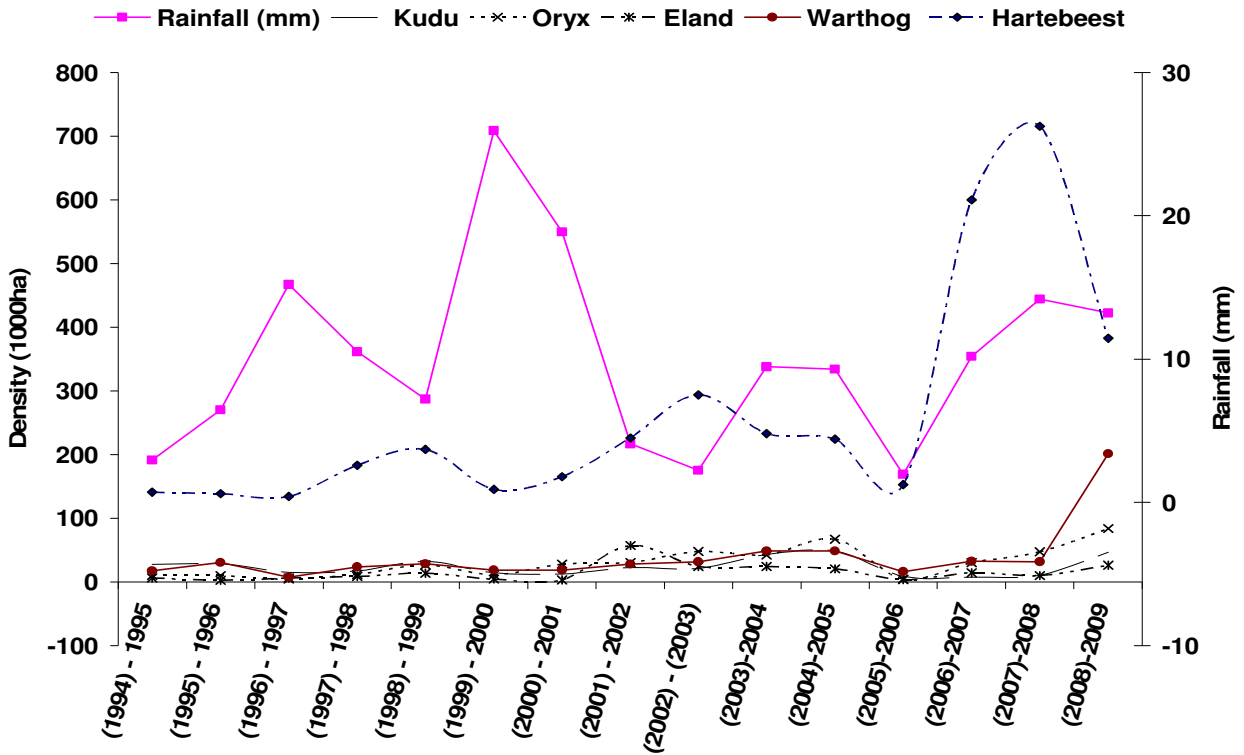


Figure 6. Historical game density analysis (1994-2009) from the Waterberg Conservancy full moon waterhole counts.

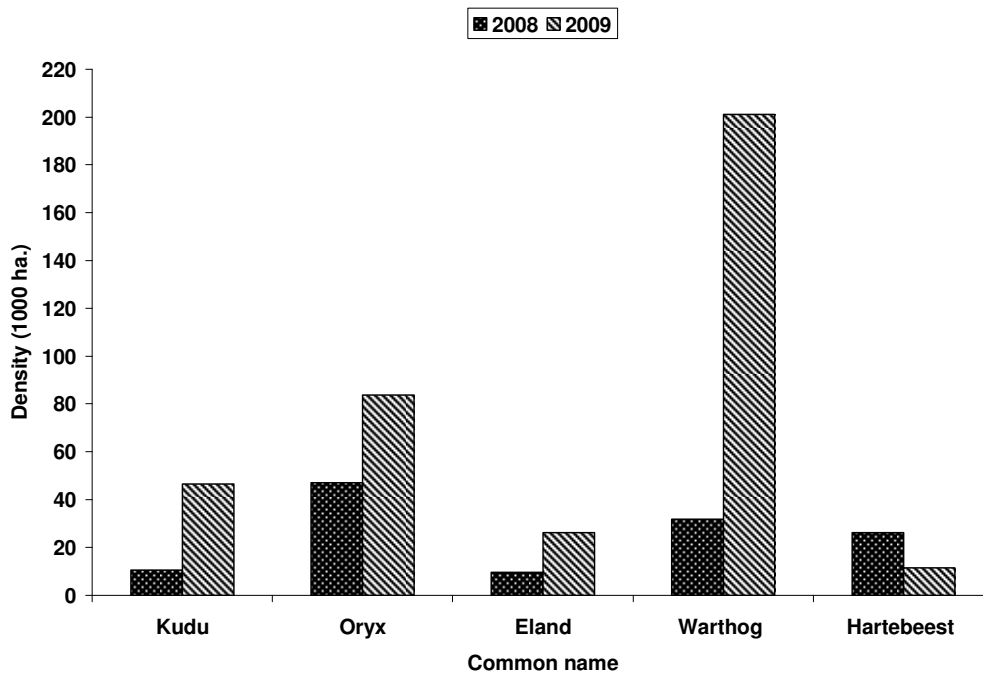


Figure 7. Animal density for the 2008 and 2009 12H00 based on the 12 hour waterhole counts.

CCF Big Field Counts

CCF's big field, know also the "little Serengeti", is an old cultivated land of 1492ha. The field, one of the largest open uncultivated areas in the north central farmlands, attracts high number of free-ranging game. This area provides an ideal case study to monitor ecological successional trends. Apart being a high prey density area for cheetahs and leopards, this area has huge potential for ecotourism. For this reason, CCF has been conducting monthly counts since 2004. During 2009, a total of 38 replicate counts were conducted on the CCF big field during the year, with the assistance of Earthwatch volunteers, students, and CCF staff with 19 occurring in the first half of the year, and 19 in the second half. All data from these surveys were entered into the main database and preliminary results on trends were produced. Overall, the density of common wildlife on the big field showed a decrease by 31% during 2009 in comparison to 2008 (figure 8). The highest declines were observed in the red hartebeest, warthog, and Oryx with 49%, 48% and 39%, respectively.

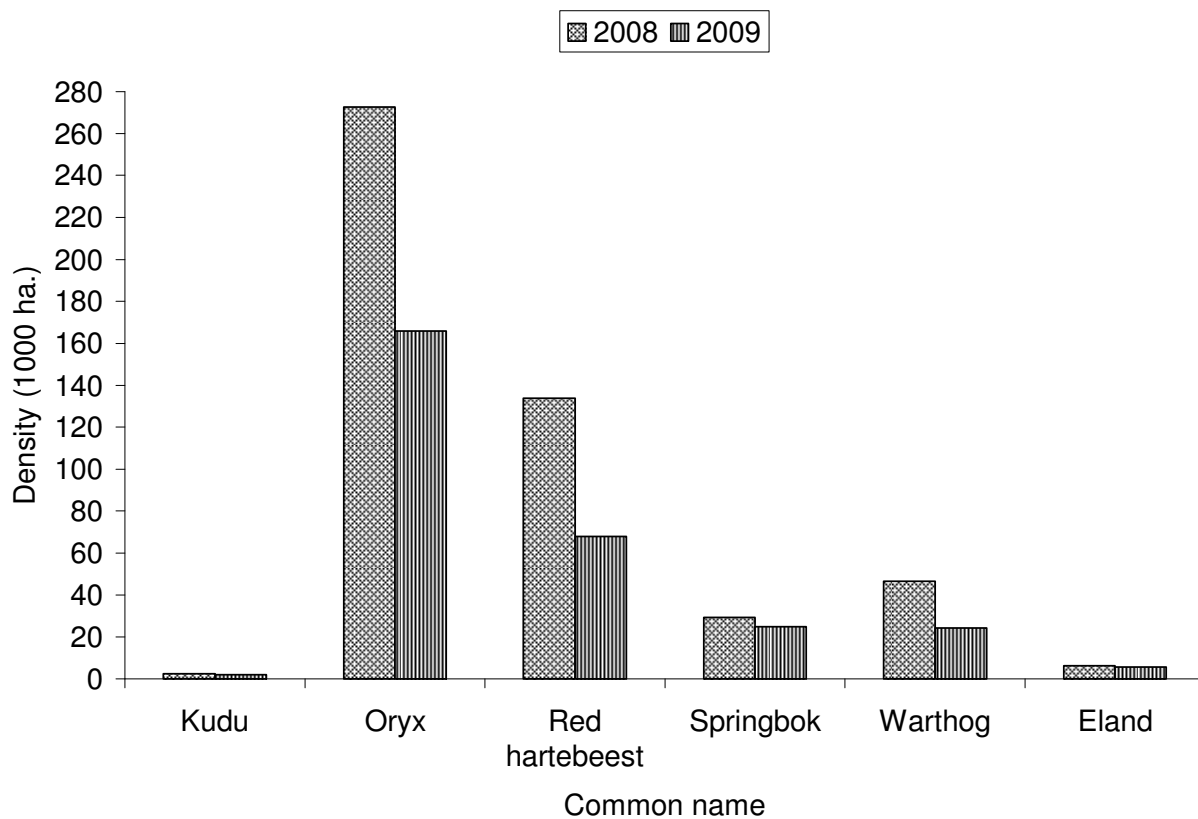


Figure 8. Comparisons of annual density for common wildlife observed on the CCF big field counts 2008 and 2009.

Analysis done on the CCF big field game counts revealed that the Oryx, red hartebeest and warthog were the most common animals and were consistent to the preceding 2008 counts (figure 8, table 9). Non-frequent species observed included the eland and kudu. The highest number of springbok was recorded during December with a density of 54.07 ± 8.86 individuals. The mean density per 1000 ha of individuals counted was highest between January and April - the hot and wet season ($414.77 \text{ ind}/1000 \text{ ha.}$), and declined between May and August, the dry and cold season ($292.67 \text{ ind}/1000 \text{ ha.}$) (Table 7). This trend was consistent with the 2008 results during the same period.

Table 8. Density (1000 ha) of common game species found on the CCF big field in 2009.

Common name	Monthly density 1000ha.(± 95%CI)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kudu		0.67	0.00		1.12	0.45	5.81	0.67		4.86	7.82	2.90
		± 1.31			± 2.19	± 0.88	± 1.58	± 1.31		± 4.34	± 5.49	± 4.44
Oryx	197.50	250.22	193.03	228.11	119.30	177.61	113.72	165.33	180.97	108.91	189.01	139.41
	± 19.93	23.43	32.64	44.13	28.45	23.24	58.14	41.70	48.64	51.46	78.70	63.79
Red hartebeest	86.24	110.81	93.61	138.07	56.08	43.12	49.37	10.28	39.77	56.13	44.24	114.39
	± 29.10	± 26.23	20.36	24.31	26.19	17.79	29.49	12.47	12.47	52.71	38.28	73.11
Springbok	39.77	14.52	6.48	27.26	30.16	21.00	29.71	23.91	31.72	14.08	17.20	54.07
	± 18.46	± 5.69	± 7.6	± 8.18	± 17.74	± 15.79	± 8.04	± 12.14	± 7.78	± 18.91	± 13.49	± 8.86
Steenbok	0.67	0.45		0.67	0.45	0.67	2.23	1.34	3.57	1.01	0.89	0.67
	± 0.76	± 0.44		± 1.31	± 0.44	± 0.76	± 1.75	± 2.01	± 1.58	± 1.56	± 0.88	± 0.76
Warthog	50.94	20.55	9.38	23.46	18.10	12.96	8.71	14.52	31.28	31.50	41.55	34.85
	± 29.56	± 7.75	± 4.97	± 9.10	± 12.89	± 6.45	± 2.01	± 5.05	± 14.52	± 20.29	± 22.07	15.93
Eland					1.12	11.39	56.30		0.22	1.17		
					± 2.19	± 14.65	± 58.64		± 0.44	± 2.3		

3. Fixed-point Photography

To monitor long-term vegetation changes over time, CCF takes fixed-point photography photos. This has been conducted since 1997. During the last year, fixed-point photography was taken during the hot and wet (Sept – Dec) and dry and cold (May – Aug) seasons at 11 locations at Elandsvreugde and Osonanga. Pictures are taken using a digital camera, and have been for the past three years.

4. Bush Encroachment Biodiversity

Research continued around CCF's bush project. While bush encroachment is considered a major problem in Namibia, it also has potential as a renewable resource for alternative energy, especially in rural areas, and to alleviate electricity shortages projected to affect Namibia in the near future.

During the first six months of 2009, CCF research assistant Matti Nghikembua and CCF volunteers started to monitor the rates of bush re-growth in areas previously restored. Other objectives are to determine the woody vegetation density, species richness, species diversity and biomass yields with comparisons to non-cleared habitat. During February and March, CCF hosted 10 students from the University of Florida, USA, enrolled in an accredited field course. Under the leadership of Aletris Neils, the students completed research projects that included assessing the biodiversity of reptiles and birds on farm Cheetah View using the thick bush as a control.

During April – June 2009, Jake Harris, a master's of science in behavioural ecology (University of Exeter, UK), completed his fieldwork in quantifying cheetah habitat suitability on Namibian commercial farmland. Specific questions for this study aimed at investigating a) whether cheetahs tended to select one

habitat type more than others, b) whether boundaries between habitat types were truly preferred by cheetahs and c) movement activities between habitat and time of day. A total of 815 locations were visited spanning over 13 commercial farmlands within the vicinity of the Waterberg Conservancy. Data were collected in 6 meter radius plots consisting of a count of tree/shrub density and vertical heights, habitat visibility, description of habitat and the number of prey scat piles. CCF research assistant Matti Nghikembua and CCF volunteers assisted in the collection of field data.

During July – October 2009, Johannes Enkali, a National Diploma Nature Conservation student (Polytechnic of Namibia, Windhoek), completed his fieldwork on woody plant regrowth and recruitment in previously bush thinned sites on CCF farms. The goal of this project was to assess recruitment, species composition and density between thinned vs. non thinned sites and the effectiveness of stump aftercare treatment using ACCESS (growth-suppressing substance) in combating bush encroachment. A total of five sites on farm Elandsvreugde were investigated with differing ages of harvest (2004-2008). Study sites were compared to adjacent non harvested habitat as control. A maximum of ten 6-m radius (area = $113.14\text{m}^2 \times 10$) circular plots was demarcated per study site. Results on species richness in harvested sites were slightly lower when compared to the non-harvested sites. The density of woody species in harvested sites was 2,922 ind/ha compared to 3,599 ind/ha in non harvested areas. High density in the harvested sites was due to the absence of regrowth treatment using ACCESS especially for the periods 2003/4 – 2007. Seedling recruitment was observed to be highest in previously thinned sites and was caused by species including *A. fleckii*, *A. mellifera* and *Dichrostachys cinerea*.

5. Rhino Reintroduction Project

In 1996, the Namibian Ministry of Environment and Tourism MET developed The Rhinoceros Conservation Plan for Namibia, which makes provisions for an ongoing and adaptable project, known as the Custodianship Scheme, to translocate black rhino onto commercial farmland. Subsequently, MET identified the Waterberg Conservancy and CCF's 14,641-hectare rhino reserve in conjunction with a conservationist/ neighbour Harry Schneider-Waterberg, as suitable habitat for the reintroduction of the black rhino.

Consequently, CCF developed a Rhino Reintroduction Project. Its long-term goals are to preserve indigenous species and biodiversity, with a focus on endangered species such as the black rhinoceros and the cheetah; benefit communities by building capacity of local people through training and creating business opportunities; conduct research; raise awareness, educate, train and communicate to the local, national and international communities; and monitor and protect rhinos. The reserve is situated below the Waterberg Plateau, which lies in the southern periphery of the reserve and is the dominant geological feature of the region. This area is historically black and white rhino habitat and has ideal vegetation and sufficient water.

In May, 2009, CCF hosted a Rhino Custodian Training Course for the Ministry of Environment and Tourism. Twenty-two people from communal and commercial conservancies, and rhino custodian farms attended this conference to gain certification for rhino monitoring. CCF provided accommodation, food, and transport. Along with classroom programming, practical training was provided through the tracking of CCF's two resident black rhinos. Three CCF staff members and one CCF in-service student attended the course. Simson Urikhob from Save the Rhino Trust gave the training. Funding was provided from Sindisa Foundation, who sponsored the training on behalf of MET.

Although the MET determined that with optimum water availability a reserve of this size can support more than 12 rhinos, a total of six adults are to be rehomed there to allow for reproduction. The first two black rhinos were relocated to CCF's reserve in December 2008. Four more black rhinos were delivered

to CCF in July 2009 (2M, 2F) and are being tracked regularly, with the possibility that two of our females may have been bred. The two males are approximately 12 and six years old. The two females are thought to be three and four years old. One of the females had to be relocated. This makes a total of five rhinos that now call CCF home.

E. Scientific Publications and scientific papers presented

In Preparation and Submitted papers

- Fabiano, E., Nghikembua, M. and Marker, L. **Estimating cheetah abundance and density using remote camera trapping in north-central Namibia** (in preparation).
- Sandra Johnson^{1*}, Laurie Marker², Kerrie Mengersen¹, Chris H. Gordon^{2,5}, Jörg Melzheimer³, Anne Schmidt-Küntzel², Matti Nghikembua², Josephine Henghali⁴, Fabiano Ezequiel², Burton Gaiseb², Bettina Wachter, **Viability of the free-ranging cheetah population in Namibia - an Object Oriented Bayesian Network Approach** (in preparation).
- *Ezequiel Fabiano¹, Matti Nghikembua¹ and Laurie L. Marker, Comparing cheetah density estimates determined using spoor frequency and radio telemetry, in Namibia* (in preparation).
- Fabiano, E.C., Nghikembua, M. T., Marker, L.L, **Do non-target species remote camera trap datasets have any value? A case study using a non-target dataset from a cheetah study conducted in Namibia.** Mammalia (submitted)

Published papers

- Marker, L. **Overview of Long-Term Health, Reproduction and Genetic Research on Namibia Cheetah (*Acinonyx Jubatus*)**. International Conference on Diseases of Zoo and Wild Animals. Netherlands. May 2009.
- Crosier, A.E., Henghali, J.N., Howard, J., Pukazhenth, B.S., Terrell, K.A., Marker, L. and Wildt, D. [*Improved Quality of Cryopreserved Cheetah \(*Acinonyx jubatus*\) Spermatozoa After Centrifugation Through Accudenz.*](#) Journal of Andrology, Vol. 30, No. 3, May/June 2009
- Marker, L., Sivamani, S. **Policy for human-leopard conflict management in India.** Cat News 50 - Spring 2009

IV. CONSERVATION

Livestock loss to cheetahs is an economic and emotional issue. Farmers perceive cheetahs as having an excessive economic impact on their livestock and wild game industries. Many Namibian farmers have done little to alleviate their problems in a non-lethal manner through appropriate livestock and predator management. By addressing the farmer-predator conflict through a conservation management strategy that benefits both humans and cheetahs, CCF is ensuring the species' survival on Namibian farms and has raised greater awareness of better farm practices.

A. Livestock Guarding Dog Programme

The Livestock Guarding Dog Program at CCF is considered one of the most successful conservation projects in regards to human / predator challenges. As of December 2009 there were 153 dogs (76M, 77F) alive in the programme, of those 115 (57M, 58F) are working and 38 (19M, 19F) are retired or pets. This programme is a crucial part in CCF's mission of conserving the wild cheetah and its continuing success is due to the efforts of dedicated CCF staff and supporters.

Of the working dogs, 70 (33M, 37F) are on commercial farms, 19 (7M, 12F) are on communal farms, 19 (14M, 5F) are on emerging commercial farms and 6 (2M, 4F) are on resettled farms and one male has been placed in Kenya.

Gail Potgieter arrived in February to conduct her Master's degree in human-wildlife conflict. Gail will also be monitoring CCF's Livestock Guarding Dogs with CCF's Education Officer, Gebhardt Nikanor.

1. New Breeding Dogs

CCF received semen from three Kangal males, as well as a Turkish Kangal female puppy for breeding purposes, donated by Texas-based Turkmen Kangal Dogs, run by Mike and Tamara Taylor (www.kangaldogs.com). The 10-week old puppy, Hediye (SB#392), arrived at CCF in May. She has settled in well and has already developed a close bond with our livestock and our experienced herder Aramas. Hediye and Cazgir (SB#414), donated to CCF in 2008, along with semen from the three Turkmen males, will be the foundation of the new CCF Kangal breeding line.

In March, CCF imported dog semen from an unrelated Anatolian male, Zor, in order to diversify the Anatolian bloodlines currently at CCF. The semen was donated by Lynn Kenny and Mark Griffith of Rare Breeds ranch (<http://www.rarebreedsranch.com>).

In November, CCF attempted its first artificial inseminations (A-I) with two of CCF's breeding females – Kangal Cazgir (SB#414) and Anatolian Uschi (SB#269), using the imported sperm. Unfortunately, both attempts were unsuccessful. We will continue to fine tune this aspect of our research in 2010.

CCF is still looking to import another male breeding dog, as the previously imported Kangal "Spots" was proven unfit for breeding due to health complications.

2. Breeding and Puppy Placements

A total of 21 puppies were placed as working dogs during 2009.

17 puppies born in December 2008 from "Tylee" (SB#240) and "Uschi" (SB#269) were placed in February 2009.

CCF's six-year-old Anatolian Shepherd, Tylee (SB#240) gave birth on 29th June to 10 puppies, however six were still born. The four remaining puppies (3M.1F) were placed with farmers in August after conducting a farmers' training. One of these puppies was placed intact with a farmer in the southern Namibia who plans to breed in the future. This will allow the CCF dog programme to increase its coverage in Namibia and thus reach farmers in possible expansion areas of the cheetah population.

3. Training programme

In 2009, efforts continued to educate Namibian farmers about the health and training of these dogs. For the third year, farmers receiving puppies were requested to attend a day-long course at CCF's research centre to learn about proper nutrition, medical needs and training methods. A total of three livestock guarding dog courses were presented during this reporting period. Puppies were then adopted out at the end of the day and farmers were encouraged to buy a bag of high quality dog food at CCF's cost price. NOLA has been a generous donor of puppy food to farmers when puppies are placed.

4. Follow-Up on Prior Placements

Puppy check-ups remained a priority for the year. Sixteen of the seventeen puppies that were placed in February were visited in March (3 months old), June (6 months old) and November (1 year old). One puppy died of unknown causes before turning 3 months old. A second puppy was confiscated after it nearly died due to a snake bite and the owner refused to take responsibility for the dog, this puppy will now be kept as a pet. The other 15 puppies are all in good health and the owners are satisfied with their progress. The four puppies placed in September are doing well – three of them were visited in October (3 months old); the farmer in the South with the fourth pup was contacted telephonically to check on his puppy's progress.

After turning one year of age, all the dogs are visited annually. To date this year 41 adult dogs (excluding the dogs that have just turned one year old) have been visited. During the visit, the farmer or the herder are interviewed as part of an ongoing project to evaluate the perceived effectiveness of these dogs on livestock farms. If the farmer reports that the dog displays any unsatisfactory behaviour, the visiting CCF Livestock Guarding Dog (LSGD) staff member will provide advice on how best to correct these problems. Follow-up calls to farmers are made throughout the year, particularly when it is not possible to visit certain farms that are long distances from the CCF centre.

While on these dog visits, the CCF staff provide vaccinations, de-worming tablets, veterinary supplies for minor injuries, topical anti-parasitic agents, and dog food for purchase. Bringing these items along helps insure that the dog's health is a priority, even if the owners are not as responsible as hoped. Three adult dogs were found in such poor condition that they were removed from the farms where they were placed and were re-homed on other farms once they had been nursed back to health at the CCF centre. Two of these dogs are in good condition and are working well on their new farms, tragically one of the dogs died (suspected snake bite) soon after it was re-homed.

5. On-going Research on SCC

Research continues on several dogs that have been diagnosed with Squamous Cell Carcinoma (SCC) of the tongue at the Otjiwarongo veterinary clinic. This research includes the collection of blood from the dogs that are visited and interviewing the farmer in order to determine the main cause of SCC. During the interview process, the CCF staff members inform the farmer of the incidence of SCC and the symptoms that indicate the presence of SCC in their dogs. The staff members evaluate the tongues of the dogs visually and tongue pictures are taken for the records. An abnormally high incidence of SCC has been observed in the small population of dogs employed in the programme. An increased susceptibility or predisposition to SCC of the CCF dogs within the programme was suspected, however since the addition of mongrels into the CCF study, preliminary results indicate that mongrel working dogs may be affected to a similar extent. Since the beginning of the year, biopsies were taken from seven dogs with suspicious tongue lesions, and were sent out for histopathologic evaluation.

6. CCF Farm and Livestock Model

CCF's farm provides the opportunity to practice and experiment with the optimum methods of livestock and non-lethal farm management practices, especially acting as a showcase model of success.

CCF's cattle, goats and sheep continue to increase.

(1) Cattle

Under the direction of Johan Britz, CCF farms manager and cattle supervisor, and Bessie Simons, CCF assistant farms manager, CCF actively manages a large cattle herd under model conditions. By December 2009, CCF has 491 cattle. Total cattle production for the year includes 62 calves born, two cattle sold, and 16 purchased. CCF also rents grazing to two other farmers for their cattle (300 head total). A small herd of cattle is also kept for use with CCF's farmer's livestock training courses.

(2) *Small Stock*

CCF continues to keep goat and sheep as an essential part of the livestock guarding dog programme. Raising puppies amongst livestock is the main objective, and with this, CCF strives to manage the herds as an exemplary as possible. Herd management is implemented by CCF herder, Armas, and is supported by CCF animal care and farm management staff. In addition, the goat and sheep herd were used several times during the past three years for demonstration during various farmer-training programmes.

As of January 2009, CCF small stock was reported to be in excellent condition due to early rain that resulted in better veldt/rangeland conditions. Continued supplementation, especially during the dry season also contributed significantly to the health condition of the livestock. An efficient health programme, and the cleanliness maintained in the kraals (sleeping pens), continues to maintain an excellent health status of the herd.

(3) *Boer Goats*

The goat herd has increased from 148 head in January 2009 and reached the pick of 167 after the kidding season. The number began to decrease due to few kid mortalities and few goats that were culled and sold. This has resulted in the total number of goats to decrease to only 135 goats in December 2009. Of the 56 does that were mated from mid- August to end of September 2008, 52 gave birth in from January until beginning of March 2009. 25 gave birth to single kid, 26 gave birth to twins, and one gave birth to triplets, of which the strongest was adopted to one single mother. At beginning of March, 71 kids were born in 2009 with only five losses: one died due to orf infection, one died of an injury, the two died of fever and one was a pre-mature birth.

(4) *Dairy Goats*

At the end of June in 2009, six pregnant dairy goats from Fairview vineyard in South Africa were brought to CCF by Rebecca Mink, who is the owner of one of our Livestock Guarding Dogs and runs an orphanage in the Caprivi region. All gave birth; one gave birth to twins of which one was a pre-mature birth. One dairy goat died in December due to an abscess that infected the throat and due to inability to eat. She got weak and she was curled. As at December 2009, there are 6 dairy kids (4males: 2 Females). In addition to feeding the kids, the milk is also being used to make cheese and when new puppies are born, some milk will be used to raise the puppies that are part of our Livestock Guarding Dog Programme.

(5) *Damara Sheep*

The sheep herd has increased from 71 head in January 2009 to 87 in December 2009. 31 sheep were mated from mid August to late September, and finished lambing in March 2009. Out of 31 ewes mated, 29 gave birth, and only two which did not conceive (94% conception rate). 35 lambs were born, and only 5 losses were experienced. As at December 2009 there are 30 lambs (12Males: 18 Females) lambs.

(6) *Livestock Vaccinations*

All sheep were vaccinated with Pasteurella and Glanvac-3 on 24 March. All goats were vaccinated with Orf, Pasteurella and Glanvac-3 on 25 March. Booster vaccinations of Pasteurella and Glanvac-3 were given to lambs and goat kids on May 20th. We vaccinated all female goats and sheep with Enzovax on July 8th. A booster shot of the Orf vaccine was given to goat kids on July 8th. Rabies vaccinations were given to all sheep and goats on July 22nd and 23rd.

(7) De-worming and Dipping

De-worming of all livestock was done in March, and again in July-August. Dipping of all goats and sheep was done in May, July and August. De-worming and external parasite control continues to be done on a regular basis.

(8) Donkey and Horses

CCF pastures donkeys and horses for feeding resident captive cheetahs. Most of these animals are purchased by CCF from the Okakarara area in the Eastern Communal area, and are animals in very poor condition or are old. Therefore, by buying them, CCF provides a humane service while providing income to this poor community. In 2009, 207 horses, 341 donkeys and 7 mules were bought and slaughtered for cheetah consumption, along with 185kg of zebra meat.

(9) Hay Production

From January to December 2009 over 2500 bales of hay were produced.

B. Global Management Planning/Policy Involvement

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.

1. International Meetings

Recent Advances in Conservation Genetics Course - Gamboa, Panama. February 2009.

Dr. Marker lectured at this conference presented by the American Genetic Association in conjunction with the National Cancer Institute, the Laboratory of Genomic Diversity, NOAHS-Smithsonian Institution and the Smithsonian Tropical Research Institute.

Panthera's Cat Advisory Council - New York, New York, USA. February 2009.

Dr. Marker attended the Panthera Foundation's first Annual Cat Advisory Council Meeting from February 10th - 12th, which included a major event on the night of the 11th, followed by a media panel on the morning of the 13th. The meeting was the first of its kind where some of the world's greatest cat experts came together to discuss important issues surrounding cat conservation, and the role Panthera can play.

Panthera also held its first event in its New York offices, where over 120 people attended to meet the Cat Council, and to hear Tom Kaplan and Alan Rabinowitz speak on the vision behind Panthera and why conservation is relevant in the world we live in today. Alan Rabinowitz and special guest, Dr. Paul

Klotman, Chairman of Medicine at Mount Sinai, discussed the importance of maintaining ecosystems and the cats that inhabit them, linking human health with the health of the environment.

Iranian DOE Delegation at CCF - CCF Centre. March 2009.

In March 2009, the CCF Centre hosted a delegation from the Iranian Department of Environment. These delegates, led by Dr. Delavar Najafi Hajipour, Deputy for Natural Environment and Biodiversity, and Head of Delegation, joined with Dr. Laurie Marker and the CCF staff to learn about appropriate management techniques for cheetah. There are under 100 cheetahs left in Iran, and it is the last known population of Asiatic cheetahs. The visiting Iranian delegates hoped to return home and apply their knowledge to their cheetah conservation efforts in Iran.

International Conference on Diseases of Zoo and Wild Animals - Safaripark Beekse Bergen, Netherlands. May 2009.

The aim of the conference, organized by the Leibniz-Institute for Zoo and Wildlife Research (IZW) Forschungsverbund Berlin e.V., was to foster an exchange of ideas among international specialists from many disciplines working with free-ranging and captive animals, and included a series of plenary sessions and workshops. Dr. Marker presented the paper OVERVIEW OF LONG-TERM HEALTH, REPRODUCTION AND GENETIC RESEARCH ON NAMIBIA CHEEATH (*Acinonyx jubatus*)

10th Sahel-Saharan Interest Group - Marwell Zoological Park, United Kingdom. May 2009.

The Sahelo-Saharan Interest Group (SSIG) meeting has been an annual forum for all those working in wildlife conservation within the arid areas of North Africa since 2000. Facilitated by the Sahara Conservation Fund, the meeting provides an opportunity to bring people together to share ideas and projects, and to continue a strong tradition of collaboration on behalf of Sahelo-Saharan wildlife and people. The meeting included a series of presentations, discussion groups covering a range of topical issues and excursions. The SSIG meeting was hosted by Marwell Preservation Trust in the United Kingdom and facilitated by the Conservation & Science Committee of the Sahara Conservation Fund.

The Wildlife Society Annual Conference (TWS) - Monterey, California (USA), September 2009.

Dr. Marker presented the lecture: “Cheetah Conservation – A Model for the Future” during a symposium on non-lethal methods to manage wildlife during TWS’s annual meeting. This session brought together researchers with an active interest in this topic, in order to (i) highlight recent advances in this field and (ii) provide a forum for discussing practical applications of novel and traditional approaches.

Consultative meeting in for the possible re-introduction of cheetah in India – Rajasthan, India. September 2009.

Drs. Marker and Brewer were joined by Dr. Steven O'Brien, CCF USA Board Chair, and a small group of IUCN specialists, Indian Wildlife Biologists and Chief Wardens for a meeting to discuss cheetah re-introduction to parts of this historic range. The meeting, planned by Dr. M.K. Ranjitsinh of the Wild Trust of India, was held at the Gajner Palace in the state of Rajasthan, and was graciously hosted by the Maharana of the House of Mewar, Shriji Arvind Singh Mewar. The meeting produced a position paper that the Minister of Environment and Forests of India has requested to take forward to Parliament. While there is much to do before this reintroduction could happen, the prospect of returning cheetah to a former territory after 60 years of extinction is tremendously exciting. In effect, this would double the cheetah’s existing range.

In route to the meeting, Drs. Marker and Brewer stopped in Vadorara to visit a manufacturer of biomass power plants, hosted by the Prince of Baroda, whose wife is the daughter of the convener of the cheetah meeting.

American Zoo Association's (AZA) Annual Conference and the Cheetah Species Survival Plan (SSP) meeting – Portland, Oregon (USA). September 2009.

Finally, during this period CCF began laying the groundwork for an Angolan visit and survey to be conducted in early 2010.

CCF currently communicates with North and West African countries through the strategic recruitment of members from these key areas for the International Training Courses. Through these courses, CCF is actively building a network of trained professional, and developing lasting relationships with their respective organizations.

2. International Cheetah Studbook

The 2007 International Cheetah Studbook was published in April and mailed to participating institutions and is, together with studbooks from previous year, available on CCF's web site. The 2008 returns were processed and analysed during the second half of 2009 with the objective of finalising the 2008 International Cheetah Studbook in early 2009.

3. Association and Conservancy Relationships

(1) Large Carnivore Management Association (LCMAN)

After a hiatus of nearly two years, CCF was able to re-convene LCMAN meetings, with the first being held at CCF in April. CCF has continued as the LCMAN secretary, and one other meeting was held in June. A variety of issues have been dealt with by this association, which includes recent issues concerning captive carnivores, hunting predators with dogs, and ways to reduce human-wildlife conflict. LCMAN has also begun planning for a national strategy meeting on cheetahs and wild dogs.

Discussions around human wildlife conflict resulted in the agreement that LCMAN members were going to collectively produce a few documents around each respective organization's activities, which will thus result in a standardized approach to responding to and helping the farming community. LCMAN recognizes and respects the fact that the farmers are their greatest stakeholders and also the people that LCMAN works with most closely. It was felt that the farming community needs to know more about what each organization is doing to assist the farming community.

The meeting also brought to light that often individuals call the different carnivore organizations about problem animals until they find an organization that will handle the situation to the individual's liking. Hence, a standardized response protocol between organizations will be developed to enable a more equitable response to all human wildlife conflict situations as they arise.

During the meeting, members of LCMAN reviewed the wild dog and cheetah objectives developed at the Southern African cheetah and wild dog Regional Strategic Planning meeting held in Botswana in December 2007. The cheetah regional coordinator, Dr. Netty Purchase, based in Zimbabwe, will be meeting with the Ministry of Environment and Tourism's Josephine Henghali to get the proposed regional plan ratified in Namibia. Ratification of this Regional Strategic Plan will lay the groundwork for

Namibia's National Strategic Plan for wild dogs and cheetahs which will hopefully take place later in early 2010.

Overall, strong relationships continue between LCMAN, carnivore NGO's, the Namibian Professional Hunting Association (NAPHA) and the Namibian Agriculture Union (NAU).

(2) Greater Waterberg Complex and the Waterberg Conservancy

The Greater Waterberg Complex idea is advancing slowly. Several meetings took place during the first six months to discuss plans to move the Complex forward. Over 300 head of wildlife that were re-introduced into one of the Eastern Conservancies in 2008 were monitored by CCF in April. CCF assists with the monitoring of the game via airplane and could not find a signal of either of the two animals radio-collared.

CCF hosted a workshop on game monitoring at CCF's Centre for two game guards from each of the Eastern Communal Conservancies.

The Waterberg Conservancy held its annual meeting in May. CCF's Dr. Bruce Brewer was again elected Treasurer. The Conservancy's main activities for the year were the 14th Annual Waterhole Count and development efforts around the Greater Waterberg complex.

(3) Conservancy Association of Namibia (CANAM)

For the past 5 years, Dr. Laurie Marker has served as the CANAM Chairwoman. At this year's Annual General Meeting, she stepped down and took on the role of Vice Chair. During the past six months, she attended ~4 meetings and helped plan and manage the AGM in April. In addition, CCF's farms manager, Johan Britz, served on CANAM's Executive Committee (EXCO) for the conservancy he is a part of. He recently stepped down from this role.

During this reporting period and under the direction of Dr. Marker, CANAM's EXCO focused on several main themes including:

- 1) the coordination of CANAM's goals with that of the NAU;
- 2) game meat utilization strategies;
- 3) the on-going discussion of CANAM's database and the development of a CANAM publication that highlights free-hold conservancies;
- 4) advocacy with the Ministry of Environment (MET) toward recognition of free-hold conservancies;
- 5) development of satellite imagery;
- 6) development of a Scholarship Award for the Year's Best Conservation Student from the Polytechnic; and
- 7) Devil's Claw sustainability

CCF is working with CANAM to put out the first edition of the Commercial Conservancy publication.

CANAM was also a part of a meeting with WWF, the Namibian Nature Foundation, NASCO, CCF, and a United States group looking at commercial conservancies. Led by the WWF Great Plains group from Montana, USA, as well as the Prairie Foundation and the Grasslands Foundation, the group visited many areas in Namibia. They spent two day within the Waterberg Conservancy and a full day at CCF.

C. Sustainable Economic Programmes Supporting Local Communities & CCF

Humans must co-exist with cheetah if the world's fastest cat is to survive in the wild. The following progress has been made on CCF's activities that assure the economic well being of people living within the cheetah's range and provide resources to support CCF's long-term activity.

1. Bushblok

The Forest Stewardship Council (FSC) inspected CCF for certificate renewal in February, and issued approval in March. Two inspectors spent three days examining not only the woodlands harvest and chipping operations, but also our general environmental and social operations (what pesticides we might use, how we manage our waste, are worker's appropriately trained and paid, etc.). Dr. Brewer and Matti Nghikembua are currently investigating avenues of mass distribution to different areas in Namibia. They have also consulted with a major cement plant under construction in Otavi that may utilize biomass and with a potential wood pellet factory in Otjiwarongo. Dr. Brewer remained active in the government's Woodlands Management Council.

CCF Bushblok continued to attract international recognition for its innovative approach to habitat restoration. In April, CCF's Bush Project, including the Bushblok, was chosen from 180 nominees to be one of three finalists for the St Andrews (Scotland) Prize for the Environment. An initiative by the University of St Andrews in Scotland and the international integrated energy company, ConocoPhillips, the aim of the Prize is to find practical solutions to environmental challenges from around the globe. As a finalist, CCF, represented by Dr. Bruce Brewer, received \$25,000 to expand the Bush Project. Bushblok was also one of 12 finalists –out of 900 entries, in World Challenge 09. This global competition is aimed at projects showing enterprise and innovation at grassroots level, and is produced by BBC World News and Newsweek, in association with Shell. BBC was at CCF in August filming a segment about CCF and its Bush Project. The program aired worldwide on BBC World News and winners were determined by popular vote. Although CCF was not one of the three winners, the project received ample media exposure worldwide which will no doubt result in increased awareness about this important aspect of CCF's efforts.

Finally, CCF's partner in Holland, SPOTS Foundation, continued to negotiate distribution of Bushblok in Holland, where it will soon be available to consumers in some shops. SPOTS has also received approval to use the 'Hier' logo on Bushblok products. Hier (Dutch for 'Here') is a large Dutch climate program whose fundamental idea it is to stress the immediate necessity to implement adaptation projects and initiatives for climate change. Hier introduces a new brand uniting and representing all initiatives that reduce the risk of climate change. Their campaign involves not only >40 national charity organisations, but also government and businesses. Eventually, this could be a starting point for an international campaign. By allowing the use of their logo, Hier recognises the fact that CCF's Bushblok brings a viable solution that benefits both humans and nature. Bushblok was also awarded special recognition during the Midsummernature festival held in June in Bussum, Holland. Wild-live selected this project as their annual winner and will therefore give a donation to CCF.

2. Cheetah Country Beef (CCB)

Cheetah Country Beef has not been active in 2009. However, from our work in this process, Meatco has established an eco-friendly label with a price premium to farmers who agree not to kill predators. However, this is not a certified product and is not monitored.

3. Eco-Tourism

CCF continues its eco-tourist activities, with Nuevas-Ideas, a Windhoek-based booking company, acting as its agent. Incidentally, Wolfgang Schenck, who heads Nuevas Ideas cc, was named the 2009 Personality of the Year by the Hospitality Association of Namibia. The H·A·N Personality of the Year is awarded to a dynamic, dedicated and determined full H·A·N Member for her/his unselfish input to the development of the Tourism & Hospitality Industry.

CCF continues to see an increase of visitors to its Open to the Public Field Research and Education Centre. During 2009, CCF hosted over 4,500 visitors, many of whom pay extra fees to watch one of the special activities offered at CCF: “Cheetah Run”, “Bellebenno Safari” to see female cheetahs in CCF’s 64-ha (200-acre) Bellebenno, the new “Elandsvreugde Cheetah Drive”, “Little Serengeti” sundown game viewing drive, and the “Exclusive” package to join Dr. Laurie Marker and CCF’s ambassador cheetahs. Over 50 tour groups visited CCF Centre for specially guided tours. In addition, Café lunches have continued to grow in popularity.

CCF is also continuing to market our Babson Guest House, a luxury accommodation aimed at fundraising and building relationships with donors. During 2009, approximately 30 guests enjoyed the comforts of the Babson Guest House, including long-standing CCF friends and donors, new CCF donors, and high-end ecotourism clients. These guests had an opportunity to learn all about our conservation and science programs and become new ambassadors for the cheetah when they return home.

Throughout the year, CCF had several special guests including supporters and groups from Chicago and California as well as the Indianapolis Zoo. In May, CCF hosted a visit from Panthera Chairman Tom Kaplan, President and CEO Alan Rabinowitz, Executive Director Luke Hunter, and their associates at CCF. The visit allowed Panthera executives to become better acquainted with CCF’s activities and the work of Dr. Laurie Marker. The European summer holiday season (Namibia's winter tourism season) was busy with many visitors, including world-renowned wildlife photographer Frans Lanting and his wife Chris Eckstrom, who stopped by to do some filming after a National Geographic assignment.

Plans to develop a high end tourism Tented Camp at CCF were temporarily put on hold due to the economy in 2009.

4. Other Initiatives

In 2009 CCF began a craft program to provide supplemental income to local workers. CCF provides the materials to program participants and then buys the finished products back for sale in the gift shop. Currently, the primary focus of this program is on beaded necklaces. CCF’s Cheetah Country Crafts gained momentum through the training of local women in the production and sale of simple crafts. The goal is to increase the supplemental income gained by Cheetah Country Craft programme participants. These crafts are marketed in CCF’s ecotourism gift shop, and as a result the women directly benefit from their involvement in the programme.

Near the end of 2009, CCF began a pilot programme aimed at facilitating training and skill development around the production of goat dairy products. This purpose of this project is to enable livelihood diversification and provide supplemental income to community members.

V. EDUCATION

The CCF Centre is such an active place, daily. We have school or farmer groups, or international visitors and volunteers here throughout the year.

Public education and the development of an active grassroots constituency are integral components of CCF's overall cheetah conservation programme. CCF educates farmers, students, educators, public-policy makers and the public on the value of sustainable practices in conservation, as well as on the importance and value of predators for a healthy ecosystem. Public education and the development of national pride in the cheetah are critical to its survival.

A. International Training

CCF uses the results of its scientific research as the foundation for a variety of conservation and education projects that integrate human needs with cheetah management. This three-pronged strategy includes long-term studies to understand and monitor the factors affecting the cheetah's survival. Results are used in developing conservation policies and programs to sustain cheetah populations, and working with local, national and international communities to raise awareness, educate and build capacity. With the cheetah populations dwindling through most other range countries, the cheetah's survival depends on educated people using proven methods to reverse this trend. Many such methods have been developed, promoted, or adopted in the last nearly 20 years by CCF in Namibia, but there is no one source of information and training for wildlife conservation professionals.

With this in mind, CCF, in cooperation with the Howard G. Buffett Foundation, committed to running a number of international conservation courses over a three-year period, bringing together conservation managers, scientists and community extension officers from cheetah range countries around the world. Bringing together participants from a variety of cheetah range countries will promote a unified and systematic approach to cheetah conservation including research, monitoring and wildlife-conflict mitigation measures.

In 2009, CCF conducted its third international training course on Integrated Livestock, Wildlife and Predator Management, and its third on Conservation Biology.

1. International Training Course on Integrated Livestock, Wildlife, and Predator Management

From June 7 to 21, 2009, CCF held its third international training course on Integrated Livestock, Wildlife and Predator Management. A total of twenty course participants from India, Iran, Ethiopia, Zambia, Kenya, Botswana, South Africa, United States of America, and Namibia to focus on integrated management systems and mitigation techniques for dealing with human-wildlife conflict situations.

The course began with a two day conference in Windhoek where participants had the opportunity to hear presentations from Chris Weaver of the World Wildlife Fund, Josephine Henghali and Caldar Siklpo of the Ministry of Environment and Tourism, Brian Mhango of Polytechnic of Namibia, Maxi Lewis of the Namibian Association of CBNRM Supporter Organization, and Nils Odendaal of the NamibRand Nature Reserve. Amy Dickman returned to CCF to teach a very successful two-day Human-Wildlife Conflict workshop, and Professor Dennis Wilson joined CCF from Arizona University to help with other components of the course. Presentations during the two week conference included Bertus Kruger of the President's Counsel, Günther Roeber of Agra Namibia, Axel Hartmann of the Otjiwarongo Veterinary Clinic, Michael Sibalatani of the Ministry of Environment and Tourism, and Glen Holland, an independent consultant from New Zealand.

(1) *Farmer's Day*

During the course, participants visited Andronicus Tjituka's farm. Andronicus was recognized as CCF's 2008 "Farmer of the Year" award for his continued practice of predator friendly farming techniques. "Farmer's Day" at Mr. Tjituka's farm provided an educational opportunity for local farmers, government officials, conservationists, and educators to meet and discuss different issues that affect the farming community. Discussions centred on farm management, the importance of adjusting animal numbers to land conditions, and also animal health and how that affects farm finances and issues with predators. Topics also included the importance of record keeping, calving seasons, and the mentorship program in place for emerging farmers, especially how it benefits and empowers farmers with knowledge and skills.

(2) *Hereroland*

The course also took a field trip to small villages in Hereroland to learn more about their experiences raising livestock and living together with wildlife. The day trip allowed us to gain insight into how we as managers can help develop integrated management systems specific to the problems being dealt with on some of Namibia's communal lands.

The aim of these field trips is to expose the attending conservation and agricultural student leaders to the issues confronting Namibian farmers and communities. It is important to expose these international students to such issues, many of which they are facing when dealing with predator conservation in their own countries. It provides them with the opportunity to answer questions and develop solutions while working with a diverse group of conservationists, all of whom can contribute their own ideas and input. In addition, course participants benefit from working cooperatively on solutions and strategies that can appropriately address these issues, and in doing so develop professional skills that are applicable to situations in their respective cases and countries.

The group visited the Ozonahi conservancy to learn about different aspects of communal farming and the dimensions of human-wildlife conflict. Key aspects discussed with the management team included a) an overview of the conservancy, b) the different stakeholders and their role, c) projects/activities in progress and planned, d) the relationship between the conservancy and the local inhabitants, e) human wildlife conflict issues and measures taken for mitigation, e) natural resource base restoration initiatives such as the reintroduction of game by the Namibian government's ministry of environment and tourism (MET), and f) the event book system. A highlight of this visit was the visit to villagers in Okakarara and Ombujondjupa (± 20 km from Okakarara). The field trip was a great opportunity for participants to experience field research such as using questionnaires and conducting face – to face interviews.

Livestock and wildlife conflict

During the visit, the group concluded that the use of dogs as a form of livestock protection was observed to be a common practice. As such, 66.7% of the respondents showed using different dog breeds such as mongrels to protect sheep and goats. The main form of protection from these dogs included barking at and chasing off the predators. Respondents have also indicated that their dogs lived with the livestock. Some of the results of the group's findings are found in the figures below, including Figure 2 showing the sighting frequency of wildlife species according to the responses received. Poaching was identified as being present in the area by 66.7% of the respondents. This may be one of the factors affecting game density and distribution in this region.

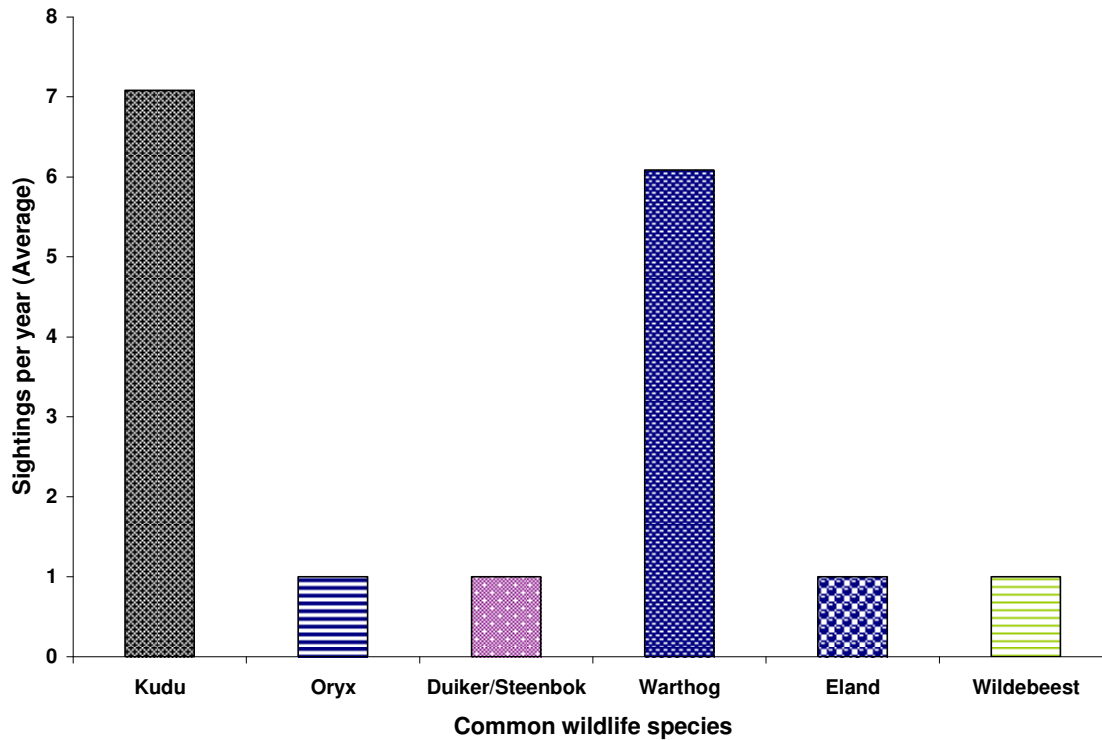


Figure 9. Common wildlife species in villages < 25km around the Okakarara urban area.

Figure 3 shows the average sighting frequency of predators on annual basis. The jackal was identified to be the most common predator frequently seen. On average, respondents were able to encounter jackals at least 2.56 times per month. Species such as the cheetah, leopard and caracal were seen on a very rare to rare basis with an encounter rate of at least 1 – 1.5 times annually. Farmers were also asked to identify the most problematic predators causing livestock losses in their area, concluding that about 66.7% of the respondents showed that most livestock losses were due to the jackal. The second and third most problem animal identified consisted of the leopard and caracal, respectively. Other predators as being problem animals in ascending order of 4 – 7 included the cheetah, African wild cat, African wild dog and lion. Livestock losses were reported to occur both during the day and night period. The highest losses were reported during the dry season months July – September. Losses were also reported to take place in the kraal, near water points and the veldt. Very rare species with an encounter rate < 1 times annually consisted of the African wild dog and African wild cat. Killing of the predator was identified to be the most common technique applied especially when losses occurred. Respondents have also indicated to have used poisons in the past to remove predators, however currently they stopped with this practice. The lion was also identified as being one of the animals with a low sighting frequency. However, it was known that these species were not present in these villages for a long time. Therefore incorrect predator identification from evidence such as spoor may lead to false conclusions regarding a certain problem animal. Respondents were also asked to raise their views regarding the importance of predators in the environment. About 66.7% of the responses were positive, attributing the presence of predators to maintain the balance of nature.

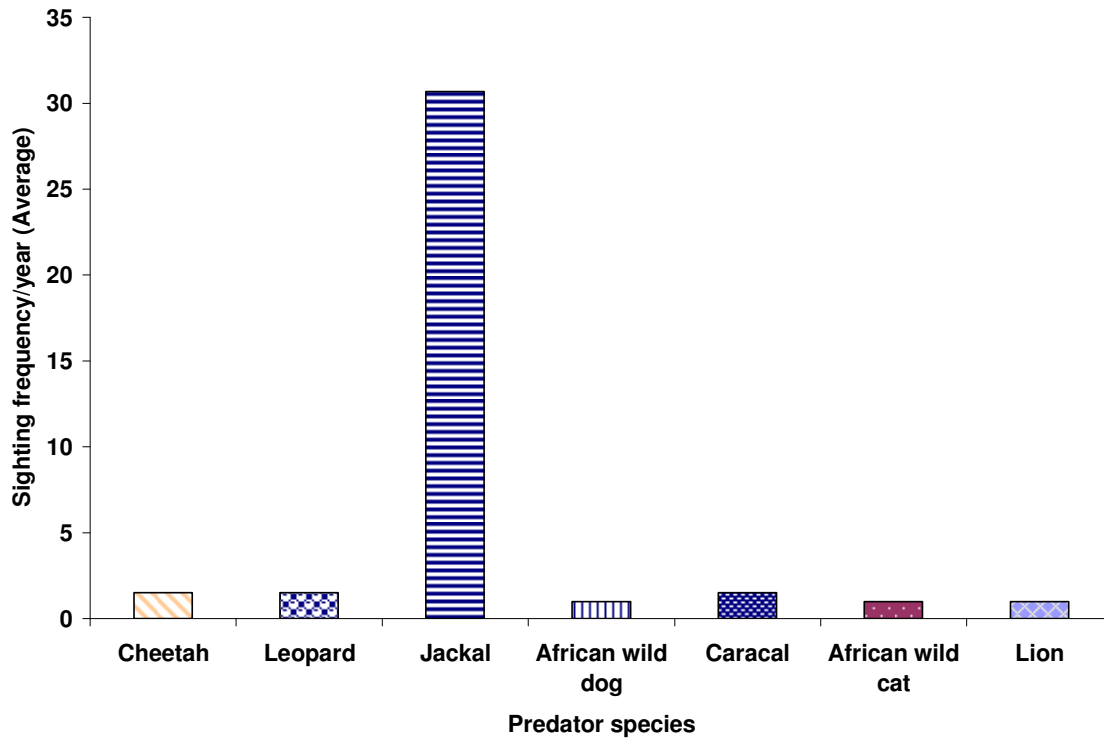


Figure 10. Sighting frequency of predator species in the villages < 25 km around the Okakarara urban area.

Overall, this June 2009 International Course was a success, judging from feedback received from course participants. Participants enjoyed themselves immensely and returned home with a great deal of resources to support their work and share with others.

2. International Course in Conservation Biology

The second international course in Conservation Biology was held from November 22nd until December 20th for 20 international conservationists from eight cheetah range countries. The participants learned about CCF's programmes and conservation initiatives within Namibia as models for developing in their countries. The course concluded with a dinner and ceremony at the Heja Lodge near Windhoek, with representatives from the participating countries and a congratulatory speech by Dr. Tjama Tjivikua, Rector of the Polytechnic of Namibia.

The training received by course participants -- who came from countries as diverse as Iran, Uganda, Botswana, Zambia, Ethiopia, South Africa, Namibia and Kenya-- focused on capacity building to conserve cheetahs and their ecosystems. According to Dr. Milt Robinson, who conducted the land-use planning module, a retired wildlife management professional from the United States Bureau of Land Management and now with the International Education Corps in Denver, Colorado, the participants were wonderfully engaging and eager to learn and apply knowledge to help the cheetah.

Lectures and exercises included theory-based talks and field practice on large-scale landscape management, techniques for estimating and monitoring cheetah populations, cheetah biology, health and genetics, conducting rapid surveys, and the role of conservancies in achieving conservation goals. Modules were conducted in cooperation with lecturers from the Polytechnic of Namibia, the Ministry of

Environment and Tourism, International Education Corps, and the University of Nebraska. To put theory into practice, participants visited the Ozonahi Conservancy in Okakarara and attended the Okamatipati Conservancy Annual General Meeting. During this time, participants spoke to local farmers about human-wildlife conflict issues in the area and surveyed the area for sustainable land use.

B. Farmers' Training

Future Farmers of Africa (FFA) is a program CCF developed for teaching integrated conservation, livestock and wildlife management techniques to emerging and resettled farmers, communal conservancies and unemployed youths. CCF works with these groups, building skills that teach sustainable practices that provide direct and indirect benefits to their communities. Farmers are dependent on livestock for their daily livelihood and livestock losses through predation have a significant impact on their income, so saving the cheetah must have a benefit to farmers. CCF's FFA program focuses on natural resource management and land stewardship initiatives that will encourage entrepreneurial activities linking Namibians with the natural resource base that supports their communities while practicing sustainable livestock and wildlife management techniques. These programs are being adapted for other cheetah range countries.

Week-long training courses for farmers and farm workers are conducted at CCF's Education Centre, covering topics that include correct predator spoor identification, livestock management to reduce losses, livestock husbandry and wildlife management. CCF developed a workshop manual titled *Integrated Livestock and Predator Management* that is available in English and Afrikaans. Participants are given the opportunity to put theory into practice using livestock on CCF's model farm and test their tracking skills by investigating mock predator kill sites in and around CCF's goat corral. CCF remained involved in the agricultural (livestock) sector development and continued to participate in a various events, which included farmers' days, public lectures, workshops, student groups, partnerships and formal training courses.

During 2009, CCF presented six training courses at its Research and Education Centre that were attended by 96 participants: three courses on Small stock Management, two courses on Farm Mechanics and Maintenance, and one course on Financial Farm Management. Farmers who previously attended training courses presented by CCF sent most of the participants. Courses were presented under the EU funded Emerging Commercial Farmers Support Programme (ECFSP), jointly coordinated by the Namibian National Farmers Union and the Namibian Agricultural Union.

C. Future Conservationists of Africa

1. Primary through High School

CCF organises outreach programmes for youth throughout Namibia, focusing on 5th through 12th grade classes and environmental and conservation clubs, and are designed mainly for groups accommodated at CCF's tented Camp Lightfoot and wilderness camp. 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 three days-two nights with CCF. All participants are exposed to CCF's research and conservation efforts by presentations and to the Namibian farmland ecosystem through the nature trail and a game drive through CCF's Little Serengeti. Team-building activities are designed to highlight the importance of team efforts in conservation. Role-play and drama are also included in the programme and include scenarios of livestock and predator management.

In 2009, CCF staff travelled to six schools and met with approximately 1,500 students, instead of the original goal of 40 schools. This was due to a shortage of education staff and a higher demand for school groups wanting to come to CCF to see cheetahs and enjoy our interactive displays at the Visitors Centre, CCF focused on bringing school groups to CCF instead of travelling to schools. CCF hosted 370 schoolchildren from nine schools for day visits, and 19 groups totalling well over 500 students visited CCF for the two-night camp –well above the original plan to host 16 youth groups at the two camps. These schools came from many areas such as Windhoek, Otjiwarongo, Nangolo, Usakos, and Oshigambo, and included the Environmental Club from Paresis Secondary School and fifth graders from St. John’s College. In August, CCF hosted 117 young men and women for the fourth bi-annual Namibian Scout Jamboree. Led by the Camp Director of Namibia, Ellis Muller, the scouts hiked, learned survival and life skills, met new friends, and shared information between scout groups in the country.

Shortly after the October announcement of Usain Bolt’s adoption of “Lightning”, a cheetah cub in Kenya, Windhoek International School adopted “Cheetah” and “Cub” as the names of their soccer teams in support of CCF.

Finally, about 1,200 young people participated in CCF activities at farmer shows around Namibia (see Community Outreach section).

2. Higher Education and In-Service Training

CCF is committed to empowering Namibians to take over the conservation and protection of their wildlife. Toward this goal, for many years CCF has fostered Namibian college students’ interest in wildlife conservation. CCF offers six-month in-service training programs for Nature Conservation and Agriculture students from the Polytechnic of Namibia. The students conduct research projects, with the goal of completing a research paper at the conclusion of their internships. Several former interns have gone on to work at conservation organizations or in the government’s Ministry of the Environment.

In 2009, CCF hosted three Polytechnic students for six-month in-service programs in Agriculture and Nature Conservation and two students from the International College Lingua in Windhoek. Additionally, CCF conducted a 10-day program for 18 Polytech students.

D. Other collaboration with Educational Institutions

In 2009, CCF hosted Ashley Coffey, Matt Solberg, and Rhianna Johnson as three-month student interns from Oregon’s Global Graduate Programme, as well as a number of Master Degree students including Jacob Harris from the University of Exeter, Ryan Richards from the University of Maryland, and Lily Vercrujisse from the Netherlands as they visited CCF to conduct research and work relating to their degrees.

Approximately 50 international university students visited CCF including groups from University of Arizona, North Carolina State, Dartmouth and the UK’s Guilford High School. One of last year’s Earthwatch volunteers, a Biology teacher from the Bishop School in San Diego, California, brought a group of high school students.

For the second year, CCF hosted 10 students from the University of Florida, USA, enrolled in an accredited field course. Under the leadership of Aletris Neils -a former 2002 CCF intern, the students learned field research techniques, African wildlife management, Namibian culture and conservation. In addition, the students conducted their own studies which included, among other things, radio-collaring

dormice, an investigation into bird calls, bat identification and small mammal trapping to see if roads act as barriers. They also did a 24-hour waterhole count.

For the fourth year, 22 teachers from throughout the United States, enrolled in continuing education through Miami University of Ohio, participated in Earth Expeditions projects at CCF in how to teach using learning-centered techniques focusing on the cheetah and its Namibian ecosystem. The course included teaching presentations on Namibian wildlife and cultures by participating teachers from the United States, a trip to Etosha National Park, hands-on activities, as well as a variety of individual and group projects. Participants also conducted school visits to Rogate Primary School in Otjiwarongo where partnerships between Rogate and United States schools continued.

Also, The Traveling School visited CCF for the third consecutive year from October 1 to 4, 2009. During this time, the girls learned about all of CCF's research, conservation, and education programmes from the staff. As a short-term project, the girls helped CCF with the maintenance of the Nature Trail that is used for visiting educational groups.

E. Community Outreach

CCF continued to visit farmers' associations and attend agricultural shows as part of our outreach and education programme. Outreach and education is an essential part of CCF's work to increase the understanding of cheetahs and their role in the ecosystem, while working to create positive attitudes towards predators on farmland. During these interactions, the CCF staff form important relationships with farmers from different regions in Namibia.

Two groups of communal farmers and one commercial conservancy invited CCF to share information with them on living with cheetahs and other predators. Each of these presentations was aimed at educating the farmers on predators and their role within the ecosystem and the ways in which farmers can reduce their stock losses. These opportunities were also used to collect data from the farmers with regards to the game and predator numbers and stock losses due to predators and other causes.

CCF staff attended Namibian farmer association shows in Windhoek, Gobabis, Otjiwarongo, Grootfontein and Okakara, reaching out not only to farmers but to their children as well. CCF staff met with more than 250 farmers who participated in our CCF activities, such as identifying predators and their spoor.

In addition to visiting specific groups of farmers, CCF also attended four agricultural shows in Otjiwarongo, Grootfontein, Okamatapati and Windhoek. The displays at the shows were both interesting and educational, with many local children coming in to see the videos and pictures of cheetahs. A predator identification game was set up for children to test their knowledge and allow the CCF staff to talk to them about basic predator identification and ecology. The game proved enormously popular with several children coming back to the stand with their friends.

The agricultural shows also provide an opportunity to speak to farmers about predators and ways to live with them in harmony. The CCF staff continued to gather data on attitudes towards predators and the farmers' knowledge of them throughout the shows. The combination of interactive games, educational videos, posters and information for children, teachers and farmers was a very effective tool for creating awareness about cheetahs in Namibia. In addition, the book "Cheetah Survival on Namibian Farmlands" (in English and Afrikaans) was given to farmers that showed interest. The booklet "Predators on Livestock Farms" in English and Afrikaans was given to farmers that asked about trying to reduce their stock losses. This booklet was usually accompanied by a kill identification demonstration using a

fiberglass goat and the kill identification page handout, which provides good basic information on predators and methods of reducing stock losses.

An unexpected highlight of the outreach programme this year was a visit by a school group from Outjo. The Grade 12 class (school leavers) had been given an assignment to assess the level of farmer-cheetah conflict and the attitudes of farmers towards cheetahs in their area. As the questionnaire was developed and presented entirely by the school children, the farmers that were interviewed gave unbiased, honest opinions. The data that the children gathered was then handed over to CCF when the group visited the centre. This sparked another project run by a masters' student from the Netherlands (Lily Vercausje) that aimed to involve children from other schools in helping CCF gather data from farmers in their areas.

In June, Peace Corps Volunteer Nick Boire began giving training regarding STD and HIV/Aids awareness to farmers and CCF staff. In conjunction with New Start, Nick also facilitated a day of HIV/Aids education, testing, and counselling for all CCF employees.

F. CCF Staff Education

- Research Assistant Ezekiel Fabiano has started his PhD in March 2009 with a scholarship from the Wildlife Conservation Network and from Dr. Eduardo Eizirik at a Brazilian University.
- Priskila N. Nepela joined CCF for in-service training in 2008, and is now working for CCF's ecotourism department as an educational Aide. She holds a national advanced diploma in Tourism from the International Training College Lingua and is responsible for customer service and guiding.
- Masters Degree student Gail Potgieter from Nelson Mandela Metropolitan University joined CCF in early 2009 to conduct her Masters project on Human-Wildlife Conflict. Gail's project will focus specifically on CCF's Livestock Guarding Dog Programme.

VI. ORGANIZATIONAL ACTIVITIES

A. Fundraising

1. CCF Namibia

CCF's 11th Annual Gala held in July was attended by over 300 people and we presented three conservation awards. The 2009 Cheetah Conservationist of the Year award was presented to Mr. J.A. (Albi) Brückner, the founder and visionary of the internationally recognized NamibRand Nature Reserve. The 2009 Farmer of the Year Award was given to Mr. Adolf Okamaru, a farmer from the Queen Sophia re-settled farm in the Otjiwarongo area who practices predator-friendly livestock and game management practices; accepting predators as a natural component of a healthy ecosystem. His farming demonstrates, through good management practices, that predator conservation is not contrary to the needs of humans, and that we can live together. Finally, the 2009 Conservation Education Award was presented to Mr. Günther Roeber for his years at CCF as a teacher and mentor to over 1,500 communal, resettled and emerging farmers and farm workers who participated in CCF's Future Farmers of Africa training courses at CCF.

Also through the 2009 gala, CCF continued to build sponsorship relations within Namibia. Furthermore, CCF continued to develop funding partnerships with the agricultural company Agra as well as the President's Council of the Namibian National Farmers Union (NNFU) and the Namibian Agricultural Union (NAU) through their sponsorships of CCF's Farmer's Training Courses.

2. CCF USA Review

(1) CCF USA Board of Directors

In January, CCF's strategic planning committee met with Moses Thompson to begin long-ranging planning. An early spring meeting was held via conference call in March. After conducting normal business, five new trustees were elected: Eric Berman, Walt Bodley, Liz Karch, Ronit Kobrinski, and Claudia A McMurray.

In April, CCF's Director of Operations, Kat Powers, resigned and Hillary Russell Davidson was put under contract as the Director of Operations and Finance. Hillary helped with the completion of the 2008 audit. She continued advancing the financial aspects of the CCF operations, including redefining the chart of accounts and creating a tracking mechanism for the key fund raising activities.

In May, CCF contracted with Mary Alex, a part-time, major-donor fundraiser. During her two months, she worked with the CCF directors and trustees and established a framework for working with high-end donors. Bob Hoagland is also assisting Dr. Marker with taking the US fundraising activities to the next level. Shannon Sharp joined CCF in December to assist Maura Biasi with donor information management. Ailey Merrick, an intern who spent three months at CCF Namibia, is helping in a variety of ways, from data entry to office administrative tasks.

CCF USA held its Annual Board of Directors meeting in Chicago on October 17-18, with CCF USA Trustees, staff and CCF UK Board of Trustees members Noel Boyd and Rob Cope as special guests. The Board of Directors elected Trustees Polly Hix and Donna Coe, who were in attendance, as well as Peter Warren, Alison Ravano from UK, and Jeff Corwin, host of The Jeff Corwin Experience, who filmed at CCF Namibia during the summer. The meetings were hosted by Steven and Joy DuPuis.

(2) Campaigns

CCF's fundraising campaigns involved five mailers and 17 blasts (140,000 e-mails) including six appeals: Hope, Spring, Mother's Day, Chewbaaka's Birthday and the Year-End.

- **Hope (USA)** – An e-mail campaign in February, celebrating the beginning of the New Year, was sent to 8,244 recipients.
- **Mother's Day (Regional)** – An e-mail campaign directed at countries that celebrate this holiday sent to 12,882 e-mail addresses.
- **Spring (USA)** - Consisted of two mailers – a general and high-end as well as an eblast (8,896 recipients). The general solicitation generated approximately \$22,000; the high-end solicitation, which included a 4x6 photo, generated approximately \$12,000; the eblast generated approximately \$21,000.
- **Chewbaaka Challenge (World)** – We e not only met our challenge, but exceeded by more than \$50,000. The total amount generated through Dec 09 from the Chewbaaka Challenge is \$209,000. The mailer was sent to 21,756 addresses and three e-blasts were sent to nearly 20,000 e-mail addresses.
- **Year end (World)** – The year-end challenge was \$150,000 and ran from November 2 to January 5. It consisted of two mailers – a general solicitation (20,909 addresses) and a high-end solicitation piece (1,722 addresses) that included a matted 5x7 photo of cheetahs, cheetah prints, and a written message from Laurie. In addition, three e-blasts were sent to nearly 20,000 addresses (with translations in German, French, Italian and Dutch) during the challenge period and a reminder letter was sent out the week of December 21. Through the matching period (Jan

5, 2010), the general solicitation generated approximately \$120,000 and the high-end solicitation generated approximately \$96,000. Through January 5 the total US funds generated was approximately \$320,000, while non-US funds totalled over \$40,000.

In addition to the above, this year CCF sent out 32 other e-mail blasts (151,876 e-mails) including:

Dr. Laurie Marker's Notes from the Field - April, August and November = 57,557 e-mails.

Informational/targeted e-blasts = 94,319 e-mails including

- Events: 14 e-blasts = 2,033 e-mails
- Holiday greetings: 2 e-blasts = 20,947 e-mails
- Studbook: 1 e-blast = 400 e-mails
- BBC World Challenge: 3 e-blasts = 39,748 e-mails
- ABC Nightline: 2 e-blasts = 28,640 e-mails

(3) *U.S. Tours*

Spring Tours

In January and February, Dr. Marker travelled to 10 states and 14 cities in the United States and Panama to meet with donors and present lectures. The trip also allowed her the opportunity to attend the Presidential Inauguration in Washington D.C.

On the eve of the Inauguration in Washington D.C., Dr. Marker, Allison Rogers, and Kat Powers attended the International Conservation Caucus Foundation (ICCF) Gala along with Congressman Hal Rogers and over 600 conservation leaders including CCF guests Claudia McMurray and Jeff and Rohini Bador. Another highlight was a private luncheon for ICCF members in Virginia with actor Robert Duvall and wife Luciana. The CCF DC Chapter held a dinner at Beth Wallace's house, and then Laurie flew to Houston for the Zoos and Aquariums Committing for Conservation (ZACC) conference, where she gave a lecture entitled "Namibian Conservation: A Model for the Future." This was an opportunity for Laurie to connect with Houston Zoo friends and several CCF USA board members and trustees including former CCF USA chair Annie Graham.

Dr. Marker was hosted in Atlanta for meetings and a special dinner with Audrey and John Wilson at the Golf Club of Atlanta. While there, Dr. Marker was able to work on a strategic plan with Eleanor Matthews and Karen Evans.

In Florida, Laurie was hosted by the Bernal family in Boca Raton, and had a chance to meet with CCF's Patricia Tricorache and Dr. Bhagavan Antle of TIGERS (The Institute of Greatly Endangered and Rare Species) for a cheetah meeting and training session at their Miami Preserve (photo). TIGERS is currently training two cheetahs to be ambassadors. These animals will play an important role in educating audiences at their facilities and special events. Dr. Bhagavan also donated 1000 DVDs of CCF for fundraising.

In Denver, Peter and Katharine Warren, Charlotte and Bob Baron, and Marty Robbins hosted a cocktail party for CCF. Dr. Marker was interviewed by NBC TV news to spread the mission of CCF's work in Namibia. The link is as follows:

<http://www.9news.com/seenon9news/article.aspx?storyid=109000&catid=509>.

Dr. Marker stopped in Seattle for meetings with major stakeholders and CCF Board member Carol Hosford, and Trustee Eric Berman, and long-time supporter Charlie Atterbury. In addition, Dr. Marker met with the director of the Seattle Foundation and Dan Asher of the CGMK Foundation.

Dr Marker then travelled to Santa Barbara and Camarillo, California, to meet with past Orvis travellers and Heidi Hayes. Heidi and husband Bill Hamilton hosted a Sundowner party at their home with several friends from the area, and CCF Board of Director Margery Nicolson. Dr. Marker met with Rich Block, Director of the Santa Barbara Zoo, as well as the educational coordinator at the Natural History Museum and students at Moorepark College.

Dr. Marker stopped in Indianapolis, where Anne and Gordon Wishard hosted a CCF party with friends from the Indy Zoo, including CCF major donor Polly Hix and husband Tony Fair, thanking them personally for their generous matching grant support for CCF's Year-end Challenge. The following day, Dr Marker spent the day at the Indianapolis Zoo with director Mike Crowthers and Paul Grayson to review the upcoming cheetah exhibit that will feature CCF due to open in the summer of 2010. The zoo expects to generate funds through this exhibit to support CCF's community-based conservation efforts aimed at protecting cheetahs throughout their range. Consequently, in early May, a Memorandum of Understanding was signed between CCF and the Indianapolis Zoological Society (IZS) to formalize this support.

February 10-12, Dr. Marker attended the first Cat Advisory Council meeting with the Panthera Foundation in New York City. The purpose of this meeting set by Tom Kaplan and Luke Hunter was to craft the Cat Advisory Council more effective in cat conservation through Panthera in the future.

In May, Dr. Marker travelled back to the United States for only 10 days to receive the 2009 Lifetime Achievement Award for Conservation from the International Wildlife Film Festival (IWFF). Her Keynote address at Opening Presentation: Wild in Focus Part 1 with special presentations during the Annual Tarkio Retreat, and participation in IWFF workshops were the highlight of this visit to Missoula, Montana.

The following fundraisers were held during Dr. Marker's May tour:

- Los Angeles, California - Second Safari Night fundraiser held in Pasadena by CCF Trustee Willy Ma and his wife Eileen. Over 138 friends and family from the LA area attended the event with music by Willy Ma and his Band with African critters presented by Wild Wonders, Zoofari partners in preservation of the cheetah, with ambassador cheetah Victor who was showcased during the lecture.
- Oakland, California fundraiser held by Nooshy Mabasher, an Iranian supporter of the Asiatic Cheetah Society. Nooshy invited family and friends to "See a Live Cheetah" from Leopard's Etc, and support CCF with this great fundraising effort. Donations of silent auction items of African art works and jewellery by designer Margaret Wilkie made the evening a success. Trustees Walt Bodley and Patricia Klitgaard were also in attendance.

Fall Tour

Beginning in early September, Dr. Marker visited over 23 cities in six weeks filled with lectures, dinners, galas and chapter events that contributed to our work to save the cheetah.

Oregon/ Washington – Dr. Marker visited Portland twice; first to see associates at the American Zoo Association's (AZA) Annual Conference and the Cheetah Species Survival Plan (SSP) meeting. CCF Trustees Donna Coe and Teresa Delaney organised several private meetings with donors, as well as a VIP

dinner, hosted by Donna and Gary Coe. The second visit was in connection with CCF Chapter's Big.Cat.Big.Party.Big.Brunch held at the Oregon Zoo, where Wildlife Safari's ambassador cheetah, Taini, was a huge hit. She was also the star of a great show on KINK radio. During her visit at the zoo, Dr. Marker also visited the new Serengeti exhibit where the cheetah graphics highlight CCF's work in Namibia and Kenya.

Before heading to Seattle, Dr. Marker briefly visited the Pendleton Round-Up, which was celebrating its 100th Anniversary, with Kay and Ruth Bishop, family of the Pendleton Woollen Mills. This is one of the oldest community projects in the western United States. In Seattle, Dr. Marker gave lectures at meetings of the Seattle Foundation and Social Ventures Partners hosted by CCF Board member Carol Hosford and Trustee Eric Berman. She also made a brief trip to Vashon Island to visit CCF supporters and friends.

On her way to Northern California to lecture at the 16th Annual Wildlife Society Conference, Dr. Marker made a quick stop in Phoenix to lecture hosted by Arizona State University's Global Institute of Sustainability (GIOS) and ecoSERVICES' Advancing Conservation in a Social Context (ACSC) and organized by CCF Trustee Claudia Whitehead. There she also met with Cameron from CheetahKids.com and many other CCF friends.

This year was the eighth year for the WCN Expo, and as a Fellow, Dr. Marker attended for the first time without giving a lecture, which afforded her time with fellow conservationists, supporters, and CCF Chapter volunteers, headed by Laurie Payne, at the CCF booth. From there, Dr. Marker travelled to Safari West for her annual lecture, "A Celebration of Speed and Elegance," with key supporters in the Santa Rosa area, and attended various meetings in the San Francisco area.

CCF's supporter Dee Norris hosted a fundraising dinner at her home in Sausalito, overlooking the San Francisco Bay, with 20 new CCF supporters and CCF Trustees Walt Bodley, Bob Page, Ralph Bushey, and CCF Board member Patricia Klitgaard. This was a great opportunity to spread the message of CCF's mission with a new group. Bob Ludlow, member of CCF's Board of Directors, with friends Barbara and Judy Schatan, also hosted a fantastic Sundowner party overlooking the Santa Cruz harbour.

Dan Marsh and Cathryn Hilker, founder of the Cincinnati Zoo's Cat Ambassador Programme, hosted Dr. Marker an event at the Zoo with Earth Expedition travellers to Namibia. This visit was followed by a stop in Indianapolis where CCF friends Anne and Gordon Wishard hosted an informal dinner and lecture. This visit presented Dr. Marker with the opportunity to also meet with CCF patrons, Polly Hix and Tony Fair, and Mike Crowthers, Director of the Indianapolis Zoo, to discuss their upcoming visit to Namibia in January.

In Denver, Colorado, Lee Everding and the Denver Eclectics at the Denver Country Club hosted a morning lecture to over 200 members. The evening dinner talk included over 80 friends hosted by Bob and Charlotte Baron, and CCF Trustee Peter Warren. The support and interest is growing in this area and we hope to begin a new chapter in Denver in 2010.

CCF Trustee and Chapter Head Jayne Bazos, with the CCF Chicago Chapter members, prepared for a full year for the Chicago Gala and Annual CCF Board meeting. On October 18th, with the support of the Columbus Zoo ambassador cheetah, Ro, and Anatolian Shepherd, Reese, Chicago held its first CCF Gala at the Newberry Library in honour of CCF Board of Directors and Trustees visiting Chicago. Supporters Joy and Steven DuPuis kindly hosted the board meetings at their DuPuis Group office in downtown Chicago.

Hosted by CCF Trustee and New York/New Jersey Chapter Head, Ronit Kobrinski, Dr. Marker stopped in Manhattan for grant meetings and a meeting with Panthera's Luke Hunter and Alan Rabinowitz, before

heading out to Long Island for a special cultivation dinner with Linda and Gary Boire, whose son Nick has been a Peace Corps volunteer based at CCF. Cultivation parties are the key for spreading the mission of CCF, and we thank CCF Board members Bob Mahoney and Dan Beringer from the area for being there to help with this important task. Events also included a CCF Chapter fundraiser at the home of Mil and Ronit Kobrinski in Colts Neck.

During a stop in the Washington, DC-Virginia area, Dr. Marker lectured at the National Zoo. Over 850 people were fascinated by cheetah Ro and Anatolian Reese of the Columbus Zoo during four showcase events held in two days at the Wakefield School, Episcopal High School, Conservation International, and the annual fundraising party hosted by the DC Chapter led by CCF Trustee Liz Karch and volunteers. Over 175 attendants were hosted at Foley & Lardner's law offices overlooking the Potomac River. CCF Trustee Emanuel Friedman from EJM Capital supported CCF by inviting over 35 of his friends, family and associates to this event filled which featured African entertainment, a silent auction, and specialty foods catered by Clyde's of Georgetown through the generosity of Sally Davidson.

While in DC, Dr. Marker had the privilege of meeting Prince Albert II of Monaco at a special dinner in his honour through the International Conservation Caucus Foundation (ICCF), an organization of which CCF is one of the founding members. The Prince received the 2009 ICCF Teddy Roosevelt® International Conservation Award in recognition of his innovative leadership in conservation policies. The Award was presented by the Speaker of the House of Representatives, the Honourable Nancy Pelosi, in a formal ceremony on Capitol Hill attended by leaders from the corporate, government and non-profit communities, as well as numerous diplomats, Members of Congress and celebrities. Prior to the dinner, Dr. Marker met with S.E. Bernard Fautrier from the Foundation Prince Albert II De Monaco as a follow up from meetings in Monaco in May, with the objective of convening an international meeting on predators.

Before leaving DC, Dr. Marker visited with key donors Julie Walters, Angela Weisskopf, Manny Friedman, George Ohrstrom and Elizabeth von Hassell to thank them personally for their kind support of CCF. She then flew back to Namibia via Atlanta with a brief stopover to visit with CCF's supporters Dante Stephensen and John Wilson, wife Audrey and daughter Julianne, and to conduct an interview for Georgia Public TV for a special show being produced about CCF.

Run for the Cheetah

The Run for the Cheetah was held in April 2009 in three cities this year- Chicago, Phoenix and Portland with the following results:

- Over 2500 run/walkers participated in the three runs this April (Chicago, Phoenix, Portland), with over two hundred fifty kids running in the kids dash.
- The runs netted over \$40,000 with almost no cash sponsorship.
- The Board/Trustee Amazing Race Contest raised \$6410, or 16% of our total revenue. This will also help cover fixed expenses.
- One CCF Amazing Race Board/Trustee team had 80% participation, one team had had 70% participation, and one team had 60% participation. The goal next year is to have 100% participation, from CCF's Board of Directors and Trustees, and increase substantially the sponsorship levels.

3. International Review

Laurie's spring tour included three countries and thirteen cities. CCF's increased effort to partner with zoos around the world resulted in lectures and meetings with five zoos in three countries, including a visit in France for the first time. The tour was made possible by CCF's fundraising partners CCF UK, SPOTS Foundation, and AMIFELINS, CCF's newest partner in France.

(1) CCF UK

Dr. Laurie Marker returned to the UK in May for her sixth annual Spring Tour, during which she attended the 10th SSIG Interest Group Meeting at Marwell Zoological Park and lectured at the University of Cambridge – Dept. of Veterinary Science and at the Cheltenham Ladies College. The lecture at Cheltenham, facilitated by CCF's supporter Alison Ravano, resulted in CCF's election as one of the College's official charities for the academic year 2009/2010. Alison also hosted a dinner party at her home, where Dr. Marker had an opportunity to meet new friends and supporters, including Lord and Mrs. Drayson. Lord Drayson, Minister of Science and Innovation, was preparing to race at the world-famous Le Mans 24, where he displayed CCF's logo on his Aston Martin.

Friends of Conservation (FOC) organized "Racing for Survival" at Kensington Town Hall. Dr. Marker spoke about CCF's efforts to reverse the decline of the wild cheetah. The compere for the evening was Simon Cowell, MBE. As the founder of UK charity 'Wildlife Aid' and the presenter of one of TV's longest running animal programmes - 'Wildlife SOS' - Simon provided a real insight into the world of animal rescues and the challenges faced in conservation today. FOC also began discussions with a major tour operator in the UK to organize eco-tours to CCF Namibia.

Finally, as part of CCF's zoo outreach efforts, Dr. Marker visited the Wildlife Heritage Foundation and lectured, for the second time, at Paradise Wildlife Park.

During this period, CCF UK Trustees Trevor Nichols (Treasurer), Jonathan Hodrien and Nick Lindsay stepped down from the board, while long-time supporters Deborah Iliffe and Alison Ravano joined the board. Peter Stewart (Secretary) has been on a temporary hiatus due to health issues, while long-time donor Rob Cope has been serving as Treasurer on an interim basis. Attendance in September by members of the CCF UK Board of Trustees, Noel Boyd and Rob Cope, to the CCF USA annual Board of Directors meeting in Chicago served to increase cooperation and understanding between CCF USA, Namibia and UK.

As of September, CCF engaged the part-time services of ex-volunteer Anja Bradley to support its efforts in the UK, including zoo and volunteer outreach, as well as research on potential funding from UK institutions. In November CCF agreed to provide donor management support through its International Director, Patricia Tricorache.

(2) SPOTS Foundation - Netherlands

During her third visit to Holland, Dr. Marker attended the International Conference on Diseases of Zoo and Wild Animals hosted by Safaripark Beekse Bergen. She also met with SPOTS' donors who sponsor three of CCF's non-releasable cheetahs: Blondi, Leia and Klein, and met with CCF's long-time donors, Hanneke and Jan Lowman from the Wassenaar Cheetah Breeding facility.

Simone Eckhardt, head of SPOTS, organized various zoo lectures and meetings including Ms. Lesley Dickey, director of EAZA (European Association of Zoos and Aquaria); IUCN; and travel operators

Thika Travel and Plan your Safari. SPOTS is also working on tours to CCF Namibia through Thika Travel, a major tour operator in Holland.

Zoo Outreach

Amersfoort Zoo – Lecture.

Beekse Bergen Zoo/Friends of Beekse Bergen – Lecture and meetings.

GaiaPark – Opening ceremony of new theme park: conserving nature for future generations."

(3) *AMIFELINS - France*

CCF's newest European fundraising partner, Amis du Guépard et des Felins Sauvages (AMIFELINS) has also launched its web site: <http://www.amifelins.org/>. In May, AMIFELINS hosted Dr. Marker for the first time in France for a visit and lecture at the Parc des Felins.

While in southern France, Dr. Marker attended a two-day meeting with local government officials, scientists, and conservationists, which was presided over by Gaston Franco, the Mayor of St-Martin Vésubie who was recently elected to the European Parliament. The meeting concluded with the signature of a cooperation agreement between CCF and Parc ALPHA with the objective of addressing conflict between predators and humans. This cooperation is the result of a recent visit to CCF by representatives of Parc ALPHA – an organization dedicated to wolf conservation in France, to learn about the success of CCF's Integrated Livestock Predator Management programmes that provide farmers with tools and education to help them maximise productivity while minimising livestock losses to cheetahs and other predators. The program included a "Service Dogs Big Day" organized by the Lions Club International, a facility tour for the area that will house Parc ALPHA's cheetah breeding programme, a lecture by Dr. Marker to park visitors, and a screening of Natacha Calestrémé's documentary about CCF entitled "Laurie Marker, For the Love of Cheetahs."

(4) *Action Campaign for Endangered Species (ACES) - Germany*

As a result of this new partnership formalised in November 2008, ACES has dedicated a section of their web site to CCF (http://www.aga-international.de/projekte/schutzprojekt_geparden.html) and designed a donation brochure which will be part of a mass mailing to promote support of CCF in Germany. The director of ACES, Birgit Felgentreu, visited CCF in early January.

4. Web Site

Thanks to Digital Cheetah, CCF launched its newly re-designed web site in late March. Digital Cheetah has supported CCF with web hosting and design since 2002 at no cost while donating cheetah adoptions for each of their new clients. CCF also re-vamped the [Cheetah News blog](#) with the help of CCF USA Trustee Eric Berman, and launched a [Twitter](#) account. Web-based networking also begun spreading with independently created pages on Facebook: two CCF alumni (volunteers) pages and two general CCF pages, as well as a CCF Causes page which accepts donations and currently includes 5,369 members.

5. Membership Relations

Since the new web site launch and through the 30th June 2009, CCF handled and/or channelled over 300 web-originated inquiries during this period, ranging from donation-related questions and responding to FAQs, guest book comments, to communicating with kids requesting assistance with school projects.









6. PR and Marketing











(1) Advertising

Google Grants donates free advertising through their popular search engine. During January-December 2009, CCF has benefited from nearly \$70,000 worth of advertising via 5.8 million ad impressions that generated 127,118 clicks.

Ad group	Status	Search Max. Cost per Click	Clicks	Impr.	Click-through rate	Avg. Cost per Click	Cost	Avg. Pos.
Cheetah General	Eligible	\$1.00	125,889	5,424,901	2.32%	\$0.53	\$66,651.51	2.4
Endangered Species	Eligible	\$1.00	912	336,380	0.27%	\$0.78	\$711.93	6.3
Sponsor/Adopt	Eligible	\$1.00	193	31,329	0.62%	\$0.80	\$154.63	6.3
Run for the Cheetah	Eligible	\$1.00	124	39,174	0.32%	\$0.85	\$105.93	2.1
Total - search			127,118	5,831,784	2.18%	\$0.53	\$67,624	2.6

Five CCF videos (Rhinos, NamibRand, Chewbaaka's Birthday and two year-end videos) were posted on the CCF's YouTube.com channel during this period, and have been viewed over 12,000 times. Collectively, all 18 CCF videos on YouTube.com have been viewed nearly 165,000 times since CCF created the YouTube.com account in August 2006. A Google Checkout button for donations is available to YouTube.com users since March 2008. The videos can also be seen on the CCF and CCF UK web sites. All videos have been rated five stars and have received very positive comments.

 <p>2009 Year-end message (short version) Added: Dec. 01, 2009 Views: 2,028</p>	 <p>2009 Year-end message Added: Dec. 01, 2009 Views: 3,405</p>	 <p>Chewbaaka celebrates his 14th Birthday! Added: July 10, 2009 Views: 2,568</p>	 <p>CCF Rhino Release Added: March 03, 2009 Views: 1,402</p>
 <p>Released CCF Cheetahs Tracked by GSM Collars Added: Dec. 13, 2008 Views: 3,730 views</p>	 <p>Sophia wants to save the Cheetah, do you? Added: December 03, 2008 Views: 4,701</p>	 <p>Cheetah Genetics - Part IV of IV (Last) Added: Nov. 24, 2008 Views: 602</p>	 <p>Cheetah Genetics - Part III of IV Added: Nov. 24, 2008 Views: 301</p>

 <p>Cheetah Genetics - Part II of IV Added: Nov. 24, 2008 Views: 244</p>	 <p>Cheetah Genetics - Part I of IV Added: November 24, 2008 Views: 916</p>	 <p>CCF Bushblok fuel logs (short version) Added: Nov. 09, 2008 Views: 2,333</p>	 <p>Message from Dr. Laurie Marker Added: Nov. 20, 2007 Views: 16,422</p>
 <p>CCF and Bushblok fuel logs Added: Nov. 05, 2008 Views: 747</p>	 <p>Welcome to the Cheetah Conservation Fund Added: June 18, 2007 Views: 16,606</p>	 <p>Cheetah Tales: Ben Rush Meets Jalani Added: October 19, 2006 Views: 12,677</p>	 <p>Run for the Cheetah Added: September 06, 2006 Views: 25,006</p>
 <p>A Message From the Cheetah Conservation Fund Added: August 26, 2006 Views: 19,219</p>	 <p>Help Us Save the Wild Cheetah Added: August 23, 2006 Views: 37,314</p>		

(2) *Media*

Press Releases – The following 23 press releases were submitted to Namibian media, and/or to southern Africa, U.S. or internationally when pertinent.

Date	Subject	Distribution	Issuer
12-Mar-09	Second Annual "Run for the Cheetah" 5K Run/Walk - Chicago, April 4th, 2008.	Local - US	CCF Chicago Chapter
20-Mar-09	Claudia McMurray joins CCF board	Local - DC	CCF USA
3-Apr-09	CCF's partner, SifakaWorld.com, announces paid memberships.	Worldwide	Sifaka World
14-Apr-09	CCF named as finalist for the St Andrews Prize for the Environment.	Worldwide	CCF
23-Apr-09	Large Carnivore Management Association of Namibia Meets at CCF	Local - Namibia	CCF
24-Apr-09	CCF concludes annual cheetah workups.	Southern Africa	CCF
15-May-09	Kangal Puppy from Texas arrived at CCF.	Local - Namibia	CCF
19-May-09	Applied Biosystems DNA Analysis Technology Aids Cheetah Conservation Program	Worldwide	ABI
31-May-09	Conservancy Association of Namibia holds Annual General Meeting	Local - Namibia	CCF

8-Jun-09	Dr. Laurie Marker concludes her 2009 Spring Tour to the USA and Europe	Worldwide	CCF
21-Jun-09	Cheetah Conservation Fund Geo-Tags	Local - Germany	CCF
18-Jul-09	Cheetah Conservation Fund's 11 th Annual Fundraising Gala Dinner	Local – Namibia	CCF
28-Aug-09	Waterberg Conservancy holds 14 th Annual Waterhole Game Count	Regional – Africa	CCF
30-Aug-09	4 th Namibian Scout Jamboree held at Cheetah Conservation Fund	Worldwide	CCF
1-Sep-09	6 th Annual Earth Expeditions group from Miami University visits Namibia and CCF	Local – Namibia	CCF
23-Sep-09	Cheetah Conservation Fund Named as Finalist in World Challenge 2009 Competition	Worldwide	CCF
25-Sep-09	Cheetah Conservation Fund Inspires Sustainable Conservation Initiatives (Denver Eclectics)	Local – Denver	CCF
28-Sep-09	Wakefield High School Hosts Cheetah and Cheetah Conservation Fund Leader	Local – VA	CCF
29-Sep-09	Cheetah Conservation Fund connects with Conservation International	Local – DC	CCF/CI
2-Oct-09	Dr. Laurie Marker in Santa Cruz For Sundowner Event benefiting the Cheetah	Local - CA	CCF
6-Nov-09	Cheetahs and Cubs let loose to play soccer at Windhoek International School	Local – Namibia	CCF
15-Dec-09	International Conservationists attend courses at the Cheetah Conservation Fund	Worldwide	CCF
17-Dec-09	Reducing Predator Conflict during Calving Season	Region – Africa	CCF

Visiting Media - CCF handled 15 film and/or photo crews in Namibia during this period:

Name	Organisation	Description/outcome
Stefano Levi	Independent photographer/filmmaker	Namibia in April to collect interviews for a project to promote the work of special people.
The Namibian and Agence France Presse	Agence France Presse (France)	Interview with Leigh Whelpton about cheetah cubs. Published in various countries on 16 June 2009.
Sunday Night	Network Seven (Australia)	National prime time weekly current affairs program visiting Namibia in May - Contacted Bruce to visit CCF in early May.
Kevin Bebbington	Salford University (UK)	In Namibia in May. Commissioned as part of Thesis/final major project to make a high definition documentary film.
<i>100 Heartbeats</i> - MSNBC	Peacock Productions (NBC USA)	Documentary on endangered species hosted by biologist and anthropologist Jeff Corwin. Shot in Namibia - August 2009. Aired on MSNBC in November 2009.
Africa Geographic Magazine	Africa Geographic (South Africa)	Article on CCF as the main feature for the August edition Published in August 2009 issue.
Frans Lantig	Frans Lanting Studio (USA)	Namibia in August during National Geographic assignment.
ABC News	ABC Nightline (USA)	Report on CCF and Dr. Laurie Marker. Aired on GMA, Nightline, and resulted in featuring Dr. Marker as Person of the Week on ABC World News in June 2009.

<u>BBC World News - World Challenge</u>	BBC World News (UK)	Documentary featuring CCF as one of the 12 finalists. Shot in Namibia - August 2009. Aired Oct 3-4 worldwide.
St'ephane Charpentier	Arte, the German and French television station	Filming a documentary on wildlife in Namibia, with Jerome Tournier. Shot in Namibia in July 2009.
"Inside the Perfect Predator" - BBC	BBC (UK) and Animal Planet (USA)	Documentary about four ultimate predators—the cheetah, great white shark, crocodile and falcon—to understand how they accomplish their extraordinary killing feats. Shot in Namibia in August. Scheduled to air early 2010
"Les guépards de Laurie" - 30 Millions d'Amis	TV3 (France)	Documentary about Dr. Marker. Aired May 09 - sent in EUR1,000 donation raised during the show.
"Wildest Africa"	Magic Touch Films (Namibia)	Handled by Laurie/Leigh
Namibian Broadcasting Corporation	NBC (Namibia)	Handled by Laurie/Leigh
EXTINCTIONStv	Coyote Films (France) and Frederic Lepage	6-part documentary for France 5 (the educative French channel), RTBF, YLE (Finland), TSR, Discovery Channel, and TV Brazil. Teasers and interviews posted on YouTube in February 2010.

Other CCF and/or Cheetah-related Coverage

A special TV show filmed in 2008 by Gecko Productions during the release of five male cheetahs at NamibRand Nature Reserve, was aired in February by TV5 (UK) and received ample worldwide coverage, although mention of CCF happened in only six out of 12 reported articles.

VII. STRUCTURAL ACTIVITIES

A. Staffing

Dr. Laurie Marker – Founder/CEO

Patricia Tricorache – Assistant Director, International Relations, Webmaster, Database

CCF Namibia:

Dr. Bruce Brewer – General Manager

Johan Britz – Farm Manager

Engelhardt /Awaseb – Assistant Farm Manager

Tanya Britz – CCF Bush Book-keeper

Monique Escurat – CCF & Janhelpman Accountant

Karen Falk – Part-time Accountant Assistant

Matti Nghikembua – Senior Research Assistant & Education Officer

Ezekiel Fabiano – Senior Research Assistant

Cheri Morkel – Veterinary Technician

Anne Schmidt-Küntzel – Post-doc Geneticist

Leigh Whelpton – Executive Assistant

Gebhardt Nikanor – Education Officer

Gabriel Angala – Education Officer

Kate Echement – Animal Care Manager - Cheetah Keeper

Matthew Cleverly – Cheetah Keeper

Bessie Simon – Janhelpman Supervisor
Max Simon – Maintenance Supervisor
Heike Stackmann – Public Relations Officer and CCF Gala dinner organizer
John Hurter – Dog Program Assistant

CCF Namibia also employs 25 Namibian farm and domestic workers.

CCF USA:

Hillary Davidson - Director, Operations
Mary Alex- Fundraising Programs Manager
Paula Martin - Executive Assistant/Outreach Coordinator
Allison Rogers - Grants Administrator
Laurie Payne - Fundraising Project Manager
Maura Biasi - Membership Coordinator

B. Volunteers

Volunteers are the backbone of CCF and vital in daily operations. CCF has been working with Earthwatch since 1996 with up to six volunteers participating monthly for a two-week period. Between January and December 2009, CCF hosted 13 Earthwatch teams totalling nearly 60 volunteers.

In addition to Earthwatch, a further 62 volunteers joined CCF in 2009. Among these were 29 international working-guest volunteers and 24 national and international student volunteers as well as 9 international volunteers with a veterinary or animal keeper background. CCF capitalises on professional specialities and interests of all volunteers, which adds to the volunteer experience.

C. Namibian Facility Developments

1. Existing Structural Projects and New Projects

The ABI Genetics Laboratory in the basement of the Babson Guesthouse was fully outfitted and an additional clean room was attached.

A “garden apartment” was finished and furnished to add a third bedroom to the Babson House guest facility.

The apartment complex on farm Boskop was renovated to provide more student/volunteer housing. Now that CCF is in possession of farm Bynadar and the former servitude area on Boskop, a new borehole was drilled in Boskop. The farmhand housing on Bynadar was upgraded and work begun on creating a holding camp for the donkeys used as cheetah feed.

On Elandsvreugde, work began on a renovation of the main barn/workshop. The auto repair bays will be upgraded with equipment donated by returning volunteer Goran Lindstrom.

The composting pads area was refurbished. Two more 10,000-litre water storage tanks were added to the main reservoir system on the Elandsvreugde hill.

To improve water for rhino and other wildlife the main road and rhino dams were excavated.

A controlled burn was undertaken on a part of the “big field” in an unsuccessful attempt to inhibit invasive bush.

2. The Rhino Reserve

Preparations for the 12,000-hectare “Rhino Reserve” continued and included grading the rhino fence line, and setting of fence poles. Final work on the fencing is being completed.

3. Automotives

In the first half of 2009, the three new 4X4 trucks purchased through the Howard G. Buffett Foundation were running fine. CCF’s four other main vehicles are approximately 7-8 years and maintenance and repair has been frequent given the sheer amount of distances driven.

Two double cab bakkies were destroyed in separate rollover accidents on the main Otjiwarongo-Windhoek highway. Fortunately staff injuries were minor.

4. Recycling

CCF has stepped up efforts to properly dispose of all waste materials. CCF’s new recycling program collects bottles, cans, and paper for Namibian processing. Other materials that are unable to be processed in Namibia such as batteries, printer cartridges, and pharmaceuticals are sent home with international volunteers.

VIII. PLANNED ACTIVITIES: JANUARY-DECEMBER 2010

In line with this statement our Goals for 2010 are as follows:

- 1. Continue intensive scientific research on cheetah health, reproduction, genetics, ecology, and species survival;*
- 2. Create and manage long-term conservation strategies for the cheetah throughout their range, and develop and implement better livestock management practices, eliminating the need for ranchers to kill cheetah;*
- 3. Conduct conservation education programs for local villagers, ranchers and school children;*
- 4. Continue fundraising to maintain programs.*

To achieve these goals we will be undertaking the following objectives and planned activities.

1. Goal #1 - Research

- Continue with tag-and-release programme and biomedical sampling on both, as well as research into population dynamics and cheetah densities.
- Continue on cheetah relocation research. In 2008 CCF started with a reintroduction programme in NamibRand Nature Reserve involving five male cheetahs; monitoring and possible further introductions into this area are planned for 2009, including the use of CCF’s Bellebenno farm for first stage re-introductions.
- Continue to collaborate with University of Davis, Smithsonian, White Oak Conservation Centre, and Namibian veterinarians on stress related disease research and collection of gastric biopsies.
- Continue to collaborate with the Smithsonian Institution on reproductive physiology studies on male and female cheetahs.
- Continue to develop CCF’s genetics lab to extract DNA from scat.
- Continue training scat sniffing dog from Philadelphia (where dog has been trained for CCF in 2008) and begin data collection with scent sniffing dog

- Continue research on squamous cell carcinoma (SSC) on Livestock Guarding Dogs (tongue cancer).
- Continue ecology projects: Game/strip counts, Waterberg Conservancy annual waterhole count, Research/Education plots of grasses and bush, and further development and use of camera traps as a census technique in known and possible cheetah range areas.
- Publish peer-reviewed scientific papers on CCF's research, and continue to contribute to popular publications.
- Publish the 2008 International Cheetah Studbook

2. Goal #2 - Conservation

- Continue implementing strategies planned at the 2007 Eastern and Southern African strategic planning meetings with partner organizations.
- Help coordinate a Namibian National Cheetah Workshop.
- Continue working with farmers on cheetah-related issues and reducing conflict with cheetahs.
- Continue working with the Large Carnivore Management Association (LCMAN).
- Assist in planning a National Cheetah Strategy Planning meeting for July 2009.
- Continue working with the Conservancy Association of Namibia (CANAM), the Waterberg Conservancy, the Greater Waterberg Complex, and various 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.
- Work with the Ministries of Agriculture, Environment and Tourism, and Trade and Industry on bush encroachment-related research and bush industry development.
- Continue CCF habitat restoration project and the production marketing and sales of Bushblok - nationally and internationally.
- Continue promoting Cheetah Country Beef.
- Attend Namibian Agricultural & Industrial Shows.
- Continue to assist other cheetah-range countries with their cheetah programs,
- Begin communications in Angola and other North and West African countries.
- Continue to monitor rhinos on CCF Rhino Reserve.
- Continue Model farm operations and use farm for training programmes as well as a profit making centre.

3. Goal #3 - Education

- Continue to expand CCF's community development programme.
- Continue to conduct educational assembly programmes in schools throughout Namibia, and distribute teacher and student materials. Hiring another education person is a priority for 2010, and CCF plans to bring more schools to CCF and travel to about 25 schools.
- Host the Earth Expeditions in cooperation with the Cincinnati Zoo.
- Host student groups at Cheetah View in cooperation with the University of Namibia.
- Continue with student internships in co-operation with Namibia's Polytechnic, teacher training colleges, the University of Namibia, and Oregon's Global Graduate Programme, and other international universities, including Master Degree students.
- Continue as a field station for Earthwatch and work with Earthwatch volunteers.
- Continue to conduct farmer and farm worker training courses in cooperation with various Namibian industry partners.
- Continue to co-ordinate and host international Cheetah Conservation Biology courses and Integrated Livestock and Predator Management courses, involving researchers and outreach/community development officers from cheetah range countries around the world in co-operation with the African Cheetah Initiative of the Howard Buffett Foundation and the Smithsonian Institution.
- Provide training to CCF's professional staff.

4. Goal #4 - Fundraising

- Plan CCF's 20th Anniversary worldwide activities for 2010.
- CCF Executive Director to travel to the US, UK and EU for fundraising and lectures.
- Continue developing CCF USA and CCF UK as well as international fund raising arms in Germany, France, Holland, Italy and Japan.
- Begin an endowment fund for CCF.
- Continue to host national and international journalists.
- Increase local sponsorship opportunities.
- Continue to develop Eco-Tourism at CCF.
- Continue planning the development of a high end tourism Tented Camp at CCF.