



2011 Year-End Progress Report

Reporting Period
JANUARY THROUGH DECEMBER 2011

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I. EXECUTIVE SUMMARY

This year's report is dedicated to the memory of CCF's Cheetah Ambassador Chewbaaka, whom I hand raised as an orphan, and became my best friend, guide, the inspiration of thousands of people who met him in person or through his multiple "star" roles on documentaries, and most importantly, the icon and voice of all the remaining wild cheetahs in the world. Like Chewbaaka, there was another cheetah who initially taught me the issues faced by her species: Khayam. In her honour, this year we established an International Day of the Cheetah, on the 4 December, that we hope will grow to become a truly global event.

Losing Chewbaaka this year was a very sad and a major event in the life of CCF. However, we know that the work must continue, and we have many achievements to dedicate to him.

One of CCF's most important research projects, the re-wilding of captive cheetahs, continued with success as four adult females that had been residing at CCF for more than eight years, were successfully released in a wild game reserve after they proved themselves capable of surviving for themselves. Following this success, CCF released into its Bellebenno game camp four captive males who, after 40 days, proved their ability to survive by hunting and maintaining a territory. Two more females have been identified for release into the game camp in early 2012. It is our hope that the knowledge acquired through this research, along with data we have accumulated throughout over 20 years of research into cheetah health and ecology, will serve to assist other cheetah-range countries in their re-introduction efforts.

Education and training continued at full blast this year, with thousands of children, youth and university students participating in in-house education programs or as part of CCF's outreach efforts. Similarly, after four years, we hosted our last four international courses, having reached hundreds of conservationists and other cheetah stakeholders from every cheetah-range country. These dedicated people are now better prepared to help their countries establish sound conservation policies, and adapt our programmes to educate their communities.

In Namibia, CCF's Livestock Guarding Dog Programme continued to be very popular, with a long waiting list for future guard dogs. We continue to add new bloodlines so we can continue to raise strong and healthy Anatolian shepherds and Kangals that have proven to be some of the cheetahs' best allies. The dogs, along with our farmers' training courses, are essential to assist those whose livelihoods depend on protecting their domestic animals but are conscious of the importance of healthy ecosystems.

Helping people and helping the environment cannot exclude each other. CCF's Bushblok enterprise that helps restore habitat, Cheetah Country Beef that allows predator-friendly farmers to collect premium prices on their products, Cheetah Country Crafts that enables Namibian women to learn a trade and earn additional income, or Cheetah Country Cheese, our new initiative to produce high quality dairy products, are some of CCF's capacity-building initiatives that create jobs and potential income for those involved.

Internationally, and with the help of CCF's fundraising partners and registered non-profits, we continue to raise awareness and gain support. Along with my fundraising tours, our chapters and fundraising partners are working tirelessly to create additional funding sources, as well as to increase our presence in their countries. Saying thank you is not enough to acknowledge them, or our staff and volunteers, students, and all our donors and supporters around the world.

We know that 2012 will be another challenging year as the world economy continues to be sluggish. However, wildlife and the environment cannot wait for economies to improve. We know there are solutions that can be implemented with small investments, such as education and awareness. Simple ideas like our livestock guarding dogs have tremendous potential. We have proven that trends can be reversed as the Namibian wild cheetah population is now stabilised after a dramatic decline in the 80s. We hope that with creativity, hard work, and the continued support of those who agree with our principles, we will be able to reverse the alarming loss of cheetahs in the wild across their range.

Laurie Marker, DPhil.
Founder and Executive Director

II. ORGANISATIONAL STRUCTURE

The Cheetah Conservation Fund (CCF) 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, France 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.

III. RESEARCH

During 2011, CCF continued working towards achieving its research objectives and strengthening collaborative efforts. Research continued in over-all health, genetics, as well as censuses, re-introduction of cheetah and ecosystem research. South African veterinarian Anna Haw joined CCF from February to May, and was replaced in July by Dr. Gabriella Flacke to assist with all aspects of animal health and clinical research. In April, Juliette Erdsieck joined CCF as Cheetah Keeper and Rachel Shairp, who began as an intern in January, as Assistant Cheetah Keeper.

A. Population Dynamics

As of 31 December 2011, CCF had 52 (21M, 31F) resident captive cheetahs, compared to 62 at the end of December 2010.

Eight adult cheetahs (4M, 4F) were soft-released as part of CCF's re-wilding research (see Releases).

Six of CCF's younger orphan male cheetahs, two sets of brothers, were loaned to Naua Naua, a lodge near Etosha. Three of these males, AJUs 1580, 1581 and 1583, came to CCF in July 2009 at three months of age, and the other three, AJUs 1592, 1593 and 1594, arrived at CCF in March 2010 at around 12 months old. Naua Naua closed down at the end of October. The six males were transferred to the Harnas Wildlife Foundation near Gobabis.

Four new arrivals included three (1M, 2F) wild orphaned cubs (AJUs 1615, 1616, 1617) that were collected and brought to CCF for care on 17 May 2011. They were trapped on a farm in the Kalkveld region but their mother (AJU 1613) and fourth cub (AJU 1614) were shot. A fourth orphaned cub (AJU 1619) was brought to CCF on 26 August 2011. This young female, approximately 12 months old, was caught in a trap cage on a farm in the Karibib region. There had been reports of nine Dorper sheep losses in a period of a month; it was thought that this was one of the cubs from the cheetah causing these losses. No other cheetahs were caught and the cub was brought to CCF for examination. All four cubs have been housed together and may be releasable into the wild when they are old enough.

1. Releases

Between 1 January and 31 December 2011, CCF released 18 (9M, 9F) cheetahs.

As part of CCF's cheetah re-wilding and re-introduction research, four adult females (AJUs 1243, 1348, 1349 and 1351) were soft-released in CCF's 4,000-hectare Bellebenno game camp in 2010 and then released onto Erindi Private Game Reserve on 7 January 2011.

A total of six cheetahs (3M, 3F) were released on 24 February 2011: two wild sub-adult females (AJUs 1595 and 1596) which arrived at CCF in March 2010; a mother (AJU 1606, around 9 years' old), who was anaesthetized on 21 February to have a satellite collar placed and a general health examination, and her two male cubs (AJUs 1604 and 1605); and a young male (AJU 1610, roughly 22 to 24 months old) that was trapped on a farm in the Otavi region and collected by CCF on 14 January 2011.

A large male cheetah (AJU 1618) was caught in a cattle and game farm in late May 2011. The farmer suspected that this cheetah had become "resident" on the property and was causing game losses, including a zebra foal. After a health examination, the male was released on CCF property on 21 May 2011.

Three male cubs approximately 4 months of age (AJU 1620, 1621, and 1622), were caught on a farm in the Okanjesu region in May 2011, and were originally part of a group of five in the wild. Their mother was shot by the farmer and the other cub was killed by a lion. These males were four months' old when they were brought to CCF on 7 November and examined on 8 November 2011. They were released on 9 December 2011 together with AJUs 1623, 1624, and 1625.

A mother, female cub and male cub (AJU 1623, 1624 and 1625 respectively), were caught on a farm in the Otjitoroa region where the mother had been killing game, e.g. springbok and impala from a game farm. The cubs were approximately 5 months' old. The three cheetahs were brought to CCF on 25 November and examined on 26 November 2011. These three animals were bonded with AJUs 1620, 1621, and 1622, and the group of six animals (mother and five cubs) was released on 9 December 2011.

AJU 1543 is a radio-collared wild male cheetah living on and around CCF's land. He was anaesthetised due to malfunctioning of the old collar and a new VHF collar was replaced. He also received a thorough health exam and was treated for a high ectoparasite (tick) burden. He was worked on and released on the same day, 14 December 2011.

For more details about monitoring cheetahs post-release, refer to the Cheetah Census section.

2. Medical Exams

Each cheetah that is evaluated under anaesthesia by CCF, both captive and wild, is assessed for general health and fitness. Each examination follows standard protocols. For the case of male individuals, sperm is routinely collected, analysed and banked in the Genome Resource Bank (GRB).

Between 1 January and 31 December 2011 CCF performed a total of 98 exams under anaesthesia on 64 individual cheetahs. Fifty-one (25M, 26F) of these animals were captive and 13 (8M, 5F) were wild cheetahs. A total of nine of these 13 wild cheetahs (7M, 2F) were permanently released back into the wild.

a) Wild Cheetahs

Between 1 January and 31 December 2011, CCF performed anaesthetised examinations on 13 (8M, 5F) wild cheetahs. Of these, five (3M, 2F) were adults and eight (5M, 3F) were cubs or sub-adult animals. Nine of them (7M, 2F) were subsequently released (see Releases section).

b) CCF Captive Cheetahs

Between 1 January and 31 December 2011, CCF performed a total of 26 medical exams on ten individual (6M, 4F) cheetahs. Fourteen of these exams were Herpes-viral dermatitis evaluations and treatments on resident male AJU 1245, including seven cryotherapy treatments.

Specific Medical Cases

Resident male AJU 981, CCF's ambassador Chewbaaka, was injured during an attack on a rabid kudu that had jumped into his enclosure on 23 February. During the 2.5-hour anaesthesia that followed to examine him, no open wounds were found, although his entire stomach and inner thighs were bruised. He was put on a short course of antibiotics in case there were any minor internal injuries and to reduce any risk of secondary infection. He was also put on anti-inflammatories for a few days so as not to over-do the medications due to his chronic kidney disease (diagnosed in 2010) and the risk of gastric ulceration which can occur with long-term anti-inflammatory use. Between the day of the attack to the day of his death, he was continually given subcutaneous fluids to prevent dehydration, and was given pain medication, along with medication for his kidneys and vitamins. He was anaesthetised again on 9 March for about 1.5 hours to clean his wounds, put him on IV antibiotics, check his blood and re-assess his condition and was reported that the wounds were healing. Unfortunately, Chewbaaka's condition did not fully improve and he died on 3 April (see Necropsies).

Resident male AJU 1245, Klein, was anaesthetised multiple times during 2011 to evaluate, treat, and to perform cryotherapy and apply topical antibiotic on his leg wounds caused by Feline Herpes virus. The wounds are located on the left front and left hind legs. After cryotherapy sessions the legs were sometimes bandaged and sometimes left open. He received multiple courses of systemic antibiotic treatment, based on bacterial culture and anti-biogram results, as the wounds are affected by secondary bacterial infection. He also received two courses of Famcyclovir anti-viral treatment for three weeks each, in May and August. A bitter-tasting solution followed by an antiseptic chlorhexidine solution was applied topically to prevent licking of the lesions for several months and was discontinued in October. In October he was started on paroxetine, a medication to reduce stress, anxiety, and as a consequence licking of the wounds; he continues on this medication currently. He was taking L-lysine (against the Herpes virus) and Omega 3 fatty acid supplements (for skin regeneration) each day through mid-October. He received a course of steroids in November to help treat inflammation of his skin. Starting November he was anaesthetised multiple times during a short period of time for bandage changes and topical wound treatment with Silvadene creme. Treatments for the Herpes-viral dermatitis are still ongoing at this point; while improvement has been noticed since October, it is hoped that it will be possible to offer Klein some time without skin issues so he can enjoy a normal life. During his annual exam on the 7 April, an oral-nasal fistula was noted, which was treated on 18 May via root canal of the affected tooth. Another root canal was performed during an anaesthetic episode for cryotherapy on 24 October. Further dental work is scheduled for early 2012.

Resident female AJU 1203, Blondie, was anaesthetized on 4 March 2011. She had sustained a laceration to her right front leg and it was not healing on its own. The wound was not contaminated and was cleaned and then surgically closed. She was put on oral antibiotic treatment and the wound healed well.

Resident male AJU 1540, Chester, was anaesthetised twice in July 2011, once for radiographs and evaluation of his right femur, which had previously been fractured and a bone plate placed (Jan 2008), and once for surgery to remove the bone plate, which had loosened. This individual is doing very well after removal of the bone plate and although he has some permanent reduced range of motion in the right knee secondary to the old fracture and scar tissue formation, he is still able to run and to hunt (see section on Bellebenno soft release).

Resident female AJU 1233, Solo, was anaesthetised on 1 December 2011 for evaluation of an acute-onset left-sided facial swelling. This facial swelling was a dental abscess associated with the root of an upper premolar tooth. The abscess was drained and flushed; she was treated with antibiotics and anti-inflammatory medication, and she recovered well. She is scheduled to have the affected tooth extracted in early 2012.

Resident female AJU 1493, Amani, was anaesthetised on 14 December 2011 for evaluation of a chronic eye problem suspected to be caused by Horner's Syndrome (sympathetic denervation of the eye). Thoracic and skull radiographs did not show any abnormalities. She also had an ear exam to evaluate for middle ear infection, a sonogram of her eye was performed to check for infection behind the eyeball, and a full eye exam was done to evaluate for any changes in the cornea, iris, or retina. All test results were normal. Her eye issue does not affect her ability to see or function normally.

Annual Physicals

In 2011, annual physical examinations were conducted on 48 of CCF's 52 resident cheetahs.

Between 4 and 12 April 2011, Associate Veterinarian Dr. Margarita Woc-Colburn and Veterinary Resident Dr. Judilee Marrow from the Smithsonian Institution's National Zoo joined Dr. Laurie Marker, CCF's veterinarians Dr. Anna Haw and Dr. Anne Schmidt-Küntzel, veterinary nurse Rosie Glazier, and volunteers to anaesthetize 38 cheetahs and perform a complete health check.

The check-ups included weighing, eye and teeth exam, and collecting samples --blood, ectoparasites and semen. Vaccination boosters were administered and Frontline applied. Ultra-sonography of the cheetah's kidneys was done to assess size and shape and detect any external masses. Minor dental work was also carried out on the individuals needing treatment. Multiple combinations of anaesthetic drugs were successfully used. All the cheetahs were in good health. Five cheetahs were found to have a low level of *Babesia* blood parasites: AJUs 1269; 1382; 1512; 1515; 1517. These cheetahs were not put onto medication for this as the condition was only sub-clinical. It was recommended that nine of the 38 cheetahs were to receive dental work, e.g. dental radiographs and root canals, within the next year.

Three other annual exams were carried out in February 2011 (3M) and four (3M, 1F) in March 2011. Finally, CCF performed three (3F) annual health examinations on CCF's captive cheetahs during the International Course in Cheetah Conservation Biology held in June 2011.

Dental Procedures

Between 1 January and 31 December 2011, eleven dental exams were performed on nine (5M, 4F) of CCF captive cheetahs. In most cases root canals were performed on broken teeth rather than extractions of these damaged or broken teeth. This work on the cheetahs' dentition is important for their general health and wellbeing as their teeth are very important for prehension and mastication of food/meat. Dr. Dennis Proffit, a human dentist in Otjiwarongo, graciously performs all of the dental radiographs and treatments on CCF's cheetahs, either at his office in town or at CCF.

3. Deaths, Euthanasia, and Necropsies

Between 1 January and 31 December 2011, CCF conducted eight (6M, 2F) necropsies on six (5M, 1F) captive and two (1M, 1F) wild cheetahs.

Male AJU 1612, a roughly 8-month old cub from another captive facility, had suffered from a high load of internal parasites, specifically coccidia. CCF captive female AJU 1441 was found dead in her enclosure. Cause of death is unknown as no wounds were seen nor illness detected prior to death. CCF captive male AJU 1180 was castrated in April 2010 and diagnosed with a testicular tumour in May 2010 based on histopathology results. His condition rapidly deteriorated in early March 2011 and was euthanized on 3 March 2011 after discovering a re-growth of the tumour in the scrotal region. Tissue samples of the widespread metastasis were collected. On 6 March 2011 a captive cheetah from another facility, male AJU 1131, was brought to CCF for a necropsy. He was thought to have suffered from a poisonous bite causing necrosis of the neck region, e.g. snake bite wound.

CCF Ambassador Cheetah, Chewbaaka AJU 981, died on 3 April 2011 due to injuries sustained in a kudu attack in February 2011. He was also suffering from chronic renal disease. A necropsy was performed and results confirmed death due to infection secondary to the kudu attack and chronic renal failure.

In May 2011 two necropsies were performed on a wild female and her roughly eight month old male cub. These cheetahs were shot by a farmer (predation of small stock). A leg fracture was diagnosed at the time of the necropsy; such injuries are often found in predators that have become problem animals. CCF visited the farm to collect data and tissue.

On 28 September, male AJU 1129, a 13-year old captive cheetah held at Naua Naua Game Reserve, was brought to CCF for a necropsy. He had died on 26 September after suffering from a long course of chronic kidney insufficiency/renal failure. His necropsy findings were consistent with his clinical history; the histopathology is still pending.

B. Health and Reproduction

1. Bio-Medical Research

Student Intern Projects

CCF accepts veterinary student interns and volunteers each year to assist in conducting clinical research and assist staff in long-term projects. There was one veterinary student intern conducting research at CCF from mid July to end of August. Anne-Sophie Migeon from the National Veterinary School of Toulouse in France was assigned a project studying the numbers and types of ectoparasites (cheetah flies, ticks, and fleas) on captive and wild cheetahs examined at CCF. She also evaluated how the ectoparasite numbers and types related to various parameters including age, gender, season, hematocrit, and *Babesia* blood parasite status. She has turned in a preliminary report which has been reviewed and is working on final revisions.

Health Issues – Gastritis

A long-term research project into the causes, levels and effects of gastritis in cheetahs has incorporated CCF's captive cheetahs in the biopsy collection. This year no more samples were needed from CCF's cheetahs, therefore endoscopies were not carried out during the annual examinations.

The three year study entitled, Improving Cheetah Health by Linking Physiologic and Behavioural Stress Metrics to Management, in collaboration with Drs. Karen A. Terio, Nadja Wielebnowski, Linda Munson, Julia Chosy, and Laurie Marker, and funded by the Morris Animal Foundation, was finalised this year.

The goals of this research were to identify correlated physiological and behavioural parameters that will help us better understand the stress response of cheetahs in general, and to identify risk factors for the development of a detrimental stress response and disease (gastritis). Once identified, management risk factors can be ameliorated for improvement of cheetah health in captive settings.

Findings indicate that cheetahs with certain temperaments are at high risk for a detrimental stress responses and gastritis, while cheetahs with other types of temperament are at a lower risk. It was also found that gastritis and stress hormones varied significantly by facility indicating that overall management at that facility is important in development of disease and detrimental stress responses. Specific management variables were correlated with adverse or undesirable behaviours, gastritis and levels of stress hormones. By housing animals with higher risk temperaments at certain facilities, it may thus be possible to lower their overall risk for disease. Additionally, recommendations can be made for

improvements to facility design but also to exporting a management “style” of successful facilities that should help improve the health and well-being of all animals, regardless of temperament risk.

These results will not only benefit animals within zoological institutions but also free-ranging cheetahs, because habitat fragmentation and conflicts with humans have necessitated the use of capture, holding and translocation for the long-term conservation of cheetah populations. Understanding the features of the captive environment that magnify the stress response will assist in the improved management of wild-caught cheetahs and in the design of protocols to minimise the impact of translocation.

2. Genome Resource Bank

Since 2002, CCF has been collecting and evaluating cheetah sperm. Between January and December 2011, 17 semen collections were added to the CCF Genome Resource Bank (GRB). The CCF GRB now contains a total of 318 cryo-preserved sperm samples from captive and wild cheetahs in Namibia, representing 98 individual cheetahs.

CCF continues to bank sperm, serum, plasma, white and red blood cells as well as hair and skin samples on all cheetahs worked up. Additionally, a scat sample collection from wild cheetahs in Namibia and neighbouring countries is kept at CCF and increases continually. Since 1991 blood samples have been obtained from over 900 individual cheetahs. Blood samples are used for over-all health and genetic purposes, with backups stored at both CCF Namibia and the Laboratory of Genomic Diversity at the National Institutes of Health. With the creation of CCF’s genetics laboratory, most samples will be held at CCF. Currently CCF holds the world’s largest wild cheetah database.

3. Applied Biosystems Genetic Conservation Laboratory

The Applied Biosystems Genetic Conservation Laboratory was set up starting end of 2008 by Dr. Anne Schmidt-Küntzel for CCF, thanks to the generous support of Applied Biosystems and the Ohrstrom Foundation. The laboratory’s main aim is to contribute to the ongoing research and conservation of cheetahs, working together with the ecology and biomedical departments in CCF’s cross-disciplinary mode of operation. The scat detection dog programme is part of the cross-disciplinary approach and was put into place in order to provide the necessary samples to the various genetics projects. The main genetics projects are related to cheetah population structure, census, determination of relatedness, and assignment of individual ID to non-invasive samples such as scat. Projects related to other species are performed with outside funding and are so far limited to collaborative projects.

Genetic projects

Frieda Idipo worked at the genetics laboratory from March to December 2011 as a laboratory technician. Frieda is very conscientious and learned the ropes very quickly; she kept the laboratory running successfully in the absence of Dr. Schmidt-Küntzel during the second and fourth quarter of this year. Thanks to her experience at CCF, she obtained a government position and unfortunately left our genetics laboratory; we wish her good luck for her future. The genetics laboratory has announced the opening for an internship for the beginning of 2012 to provide genetic laboratory training for Namibian graduates.

In the second and fourth quarter of 2011, CCF geneticist Dr. Anne Schmidt-Küntzel spent three months as visiting scientist at Dr. Stephen O’Brien’s Laboratory of Genomic Diversity (LGD), at the National

Cancer Institute in Frederick, Maryland in the US. During that time she continued her work for CCF at a distance and worked closely with a database expert in order to develop a database for the CCF genetics laboratory, which will also serve as an electronic laboratory notebook. The database is close to being ready for use and is highly anticipated by the genetics laboratory staff.

Since the beginning of the year, close to 150 scat samples, coming from various areas of Namibia, were extracted and tested with a multiplex, and the data from approximately 130 samples of the Wild Boy project was pulled together and analysed as a whole. An identity could be assigned to 64% of the samples. These samples were used as a training set to put in place the most efficient laboratory flow for the genotyping attempts and determine allele dropout rates for the microsatellite markers used. While a 64% success rate is widely accepted for scat samples, more tests are on their way in order to further improve it.

In addition to the multiplex used to test the DNA quality, five additional multiplexes of three or four microsatellite markers were optimised. These multiplexes will allow amplifying 16 additional markers in five reactions. So in total the 20 markers currently in use can now be amplified in six reactions, allowing to reduce the amount of reagents and time per result by 3.3 times.

Scat from CCF's resident wild cheetah, Wild Boy (AJU 1543), continues to be collected daily since the start of the genetic component of the project in 2008. The samples are used with the intent to allow for long-term monitoring of stress and testosterone levels, diet, and parasite load. Over 650 samples are currently available.

At the end of this year, Ezekiel Fabiano passed his qualifying exam. As part of his doctorate research he is currently finalising analyses for a manuscript with focus on the demography of the Namibian cheetah population. This population is of particular significance as it represents the largest free-ranging population for the species. On a laboratory front, he continues to genotype and sequence samples. Preliminary sequence results show that some of the primers designed based on other species are not producing the intended results and may need to be re-designed. For genotypes, further repeats are needed due to the difficulties of working with scat samples (e.g., 64% amplified only with at least two markers in a 4-marker multiplex). The CCF genetics laboratory team also continues its efforts to secure additional samples for all countries in the region.

Fabiano spent the second quarter of the year in Brazil as a teaching assistant for Profs. Eduardo Eizirik and Sandro Bonatto's evolution class. His main responsibilities were to assist students with group work and seminars, and the lecturers with some class administration aspects.

As part of the International Courses in Cheetah Conservation Biology, an additional 44 international students participated in an eight-hour conservation genetics class and were trained in sample collection and labelling. As part of the practical training the students performed a DNA extraction in the genetics laboratory.

Collaborative genetics projects

In the scope of an ongoing carnivore diversity started in collaboration with Prof. Eduardo Eizirik, samples continue to be collected. Future laboratory work will be performed at the CCF laboratory as soon as outside funding for this study becomes available.

CCF's Applied Biosystems Genetic Conservation Laboratory participated in a collaborative effort between WWF, the Namibian Ministry of Environment and Tourism (MET), Oregon State University (OSU), and CCF. DNA was extracted from 49 buffalo blood samples in 2009 and analysed by Dr. Clint Epps at the Department of Fisheries and Wildlife of OSU. A report was submitted to MET in May of this year.

The genetic work on white rhinoceros, performed in collaboration with Master's student Abigail Guerier from Ongava Wildlife Reserve's Research Centre, was completed in 2010 and a pedigree for the rhinos was finalised thanks to the genetic information. A manuscript is currently in review. A project on black rhinoceros will begin with Ongava Research Centre in the near future.

As part of a collaborative project with Dr. Gregory Barsh's genetics laboratory at Stanford University in the US, CCF collected genetic samples of spot and background areas from cheetah skin, in order to better understand the molecular mechanisms underlying the formation of spots. The results have been very interesting and confirmed the involvement of pigmentation genes as well as keratin genes; keratin being responsible for structure, thus explaining the fact that cheetah spots are softer than the light background colour. A manuscript is currently in revision following the comments of reviewers.

A project involving the evaluation of genetic diversity of the lion prides in Ongava and Erindi reserves, in collaboration with both research teams, was started. Samples are currently being collected and analysis will start in the beginning of 2012.

A new project in the planning stage involves the identification of hybridisation levels between wild cats and domestic cats in Namibia. A genetic toolkit for the identification of hybridisation is currently being developed. Further advance of this project is funding dependent.

A new collaboration was started in the beginning of 2011 with Dr. Eroid Naomab, head of the department of Chemistry and Biochemistry at the University of Namibia for a study on gene expression in the cheetah.

4. Detection Dogs

The CCF scat detection programme continued to progress in the second half of 2011. Sadly the program said goodbye to assistant trainer Carolyn Whitesell in July and then to handler Katherine Forsythe in November. A new trainer/handler is due to arrive in January 2012.

The dogs, Finn and Isha, alert to cheetah scat by sitting next to the sample (and in Isha's case, also by barking), and on the command "show me" will point with their nose to the exact location of the sample without touching the sample itself.

Out in the field, the dogs are searching around cheetah playtrees, on CCF roads, and in areas where a collared cheetah has been located. CCF was graciously donated two dog GPS collars, which the dogs wear whenever they are working in the field. Not only do the collars act as a great signal to the dog that it is time for work, but the data collected by the collars is used to calculate the total distance searched by the dog and a map can be made marking exactly where the dog has searched with the locations of any cheetah scat found. Searches while using the collars have resulted in 22 cheetah scats during 88.3 kms collectively walked by both dogs, which corresponds to 4km of search per scat sample.

Both Finn and Isha underwent snake aversion training in an attempt to prevent potentially dangerous snake encounters while out in the field. The training proved successful with Finn, as he came upon a black mamba while working on Bellebenno Farm but left it alone. Finn and the snake went their separate ways unharmed. Isha, due to her Anatolian ancestry which mandates protecting her domain, has killed two Cape cobras and attacked Puff adders and Mozambique spitting cobras that have entered her yard. Thankfully, Isha is so nimble that she has not been bitten. She has not encountered a snake while working in the field.

In March, Carolyn Whitesell met with Dr. Sam Wasser from the University of Washington's Centre for Conservation Biology, where they discussed study designs, methods of working scat detection dogs that could be applicable to CCF's terrain, and the use of matching dogs. She also had the opportunity to visit Dr. Wasser's scat detection dog kennel, where she met the trainers, handlers, and dogs.

Renowned Australian dog trainer Steve Austin continues to collaborate with CCF, and is currently training two Springer spaniels for CCF's program, which he will bring over as soon as their training is completed. His generous help and professional support are highly appreciated.

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. For the sixth year, CCF continued its census research using non-invasive photographic captures via camera traps. 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.

CCF's cheetah census involves fifteen camera trap stations, with two Bushnell or Reconyx cameras located at each station. Since the start of this calendar year, the camera trap stations have captured over 12,000 images of cheetah (Figure 1). The camera trap stations with the most cheetah activity are located near the Big Field on Elandsvreugde Farm and on Bellebenno Farm. However, cheetahs have also been photographed on Osonanga and Boskop farms. So far, since the start of the census, 23 cheetahs have been captured by the cameras, out of which 22 (10 males, 5 females, and 7 cubs) have been positively identified by their unique spot patterns. The cameras have also captured over 3,500 photos of leopards and occasional photos of rare species such as the pangolin, which visited a station on Cheetah View Farm twice in the month of May.



Figure 1: Example of camera trap photos of cheetah and leopard taken January to December 2011.

“Wild Boy”

CCF’s resident wild male cheetah (Hi-Fi, AJU 1542) continues to include the CCF centre within his home range. Hi-Fi’s movements and presence around the centre are monitored by daily tracking as well as camera trap and visual sightings. Since January, Hi-Fi has spent on average 11.6 days around the CCF centre per month, with the lowest in November with only five days and highest in January with 19 days. On average over the last year he spent two days at the centre and two days away, though he spent 9 consecutive days at the centre in January and 21 days away in November. His presence around the CCF centre appeared to be getting less frequent as this year went on. It was presumed that this was because his collar’s VHF signal had become weaker and thus harder to pick up. Early in December, he was spotted walking across a road at the CCF centre. We used the radio telemetry equipment to test whether his collar was working and received no signal and concluded this was due to a faulty radio collar. On 14 December Hi-Fi was trapped to fit a new collar, which should now emit a much stronger signal. Additionally, it was discovered that the radio telemetry receiver was faulty. Since changing receivers, we have received a signal from him almost daily. We hope to continue monitoring him

throughout 2012 both remotely through his collar signals, camera trap photos and directly through visual observations.

Hi-Fi's presence is also monitored at our camera trap stations across the CCF farms. He is frequently recorded at the play trees on the Big Field, Boskop, and Bellebenno, as well as at a dam on Osonanga. Details of two kills, a duiker and an oryx, made near the centre have also been recorded.

Daily monitoring not only allows us to record his movement and presence at the centre, as well as any hunting activities in the area, but also allows us to use him as an eco-tourism activity to further educate tourists about the cheetahs' plight and the research carried out at CCF.

"Wild Mom 1"

At the end of February we fitted a satellite collar to a wild female cheetah (AJU 1606) before releasing her onto CCF's property along with her two sub-adult offspring and two unrelated sub-adult females. The collar was fitted with a timed-release mechanism that is pre-programmed to drop the collar off of the animal's neck at a set time and date. This is a new technology tested at CCF for the first time. Because the collar had been used on two previous cheetah releases we opted for a short study period of just five months, since it was expected that the battery would not last much longer than this and we needed to recover it after the study.

The female proceeded to carry out what was almost a tour of CCF property (Figure 2). Her collar was due to drop off in July 2011. However, when looking to retrieve it, CCF staff found the female in a den with at least three small cubs (estimated to be around three weeks old). The collar was therefore not retrieved to avoid disturbing the mother unnecessarily. When the collar was retrieved two months later, the area was surveyed for scat, kill sites and physical characteristics. There was no sign of the mother or cubs at this point, so it is presumed that they have moved on to a new area.



Figure 2: Movements of the "Wild Mum 1" (AJU 1606) around properties using satellite collar fixes. Red dots indicate fixes in February, yellow - March, blue - April, purple - May and green - June.

The mother was spotted on one of our playtree camera traps at the end of October in Bellebenno (Figure 3). She had at least three healthy cubs with her at this time. We hope that the whole family continues to do well.



Bushnell

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Figure 3 “Wild Mom 1” with cub captured by a camera trap at a playtree in Bellebenno.

“Wild Mom 2”

At the end of November CCF received a call from a farmer who told us that he had trapped an adult female cheetah with two of her cubs, which were presumed to be approximately six months old. Upon receiving her and her offspring into the CCF centre, a workup was carried out on each cheetah to establish the health of all individuals. Each cheetah appeared to be in perfect health. As a few months earlier CCF had received an orphaned litter of cheetah cubs of approximately the same age, it was decided to see whether the mother would accept these new cubs as her own. After a trial period of placing both groups side by side in holding pens, the orphans were successfully integrated into the family. All of them were then released onto CCF land on 9 December after radio and satellite collaring the mother. For the following few days she headed almost in a straight line towards a neighbour’s property near the Waterberg Plateau (Figure 4) and has since been stationed just south of the Plateau for the rest of December. We shall continue to monitor her movements over the forthcoming months.



Figure 4: Movements of "Wild Mom 2" on CCF land and surroundings during December 2011

2. Behaviour of captive cheetahs

In 2009 a study of the behaviour of the centre cats during feeding and runs was undertaken. The study was continued in the second half of 2011 by intern Isabel Lerman from Brazil. Some interesting results were obtained. For example, it was calculated that each male cheetah spent, on average, nearly 200 more minutes feeding over the eight-week study period compared with the female cheetahs, even though the same amount of food was provided (Figure 5). This could be explained physiologically as male cheetahs tend to have a larger body mass compared with female cheetahs and therefore require a higher daily calorific intake, or it could be that male cheetahs spend more time licking bones than females.

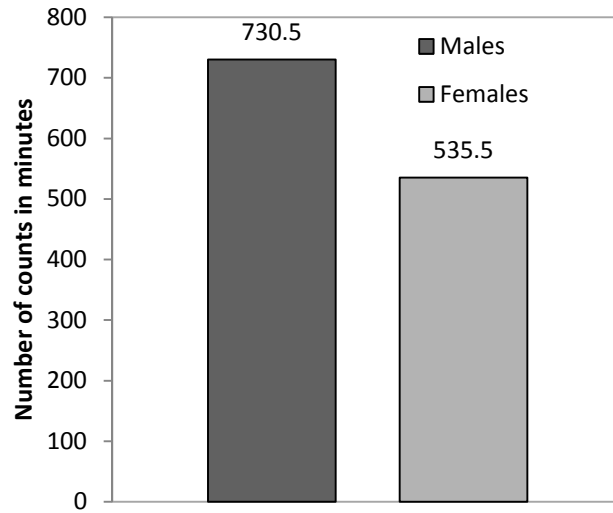


Figure 5: Average time male and female captive cheetah spent feeding over eight weeks

In terms of social behaviour, male captive cheetahs appeared to be more sociable than females (Figure 6), spending more time both lying next to another and licking each other. This reflects the behaviour seen in wild cheetahs, as adult males are more likely to form single-sex coalitions and will show social behaviour towards each other, whereas adult females tend to be solitary.

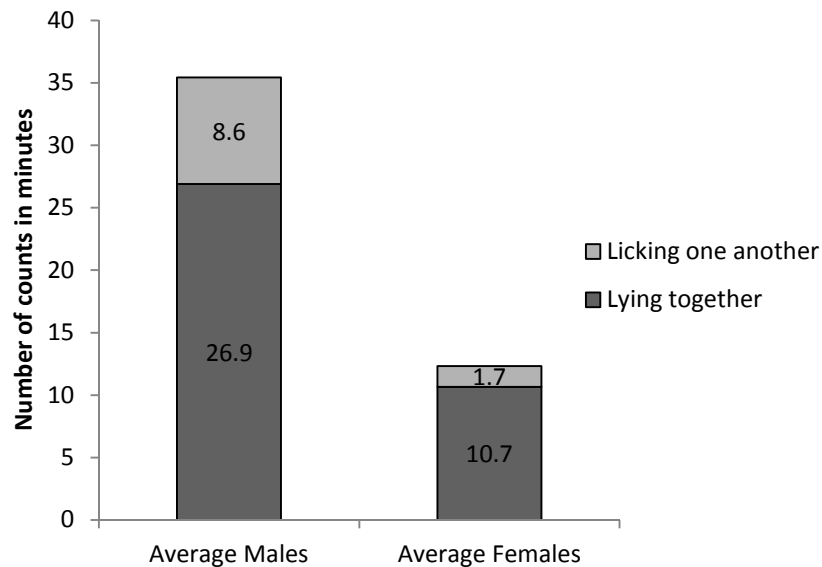


Figure 6: Average time male and female captive cheetahs spent doing social activity over eight weeks

A study was conducted on a group of four of CCF's resident males to determine whether the male coalition of captive male cheetahs demonstrated a dominance hierarchy, e.g. whether certain individuals tried to steal food away from other males more frequently than by chance (Figure 7). The study showed that Blond Man was the most dominant, followed by Little C, with Smart Man as the least dominant cheetah in the group.

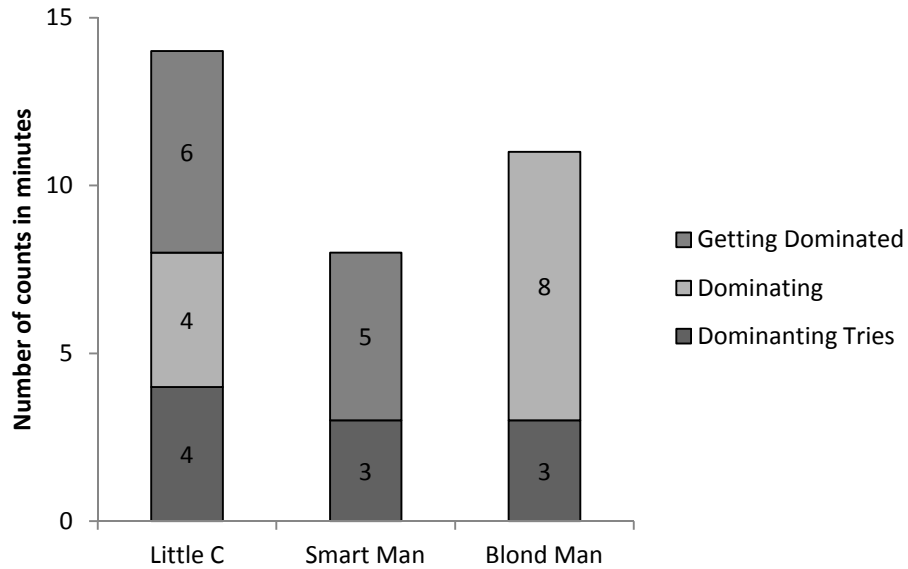


Figure 7: Average time male captive cheetahs spent demonstrating dominance-related behaviour in eight weeks

CCF’s captive cheetahs are given the opportunity to run after a moving lure regularly to act as both an enrichment and exercise activity. The average amount of time both male and female cheetahs spent running during the eight week study period was measured. Figure 8 shows that the females run for a longer period of time than do the males.

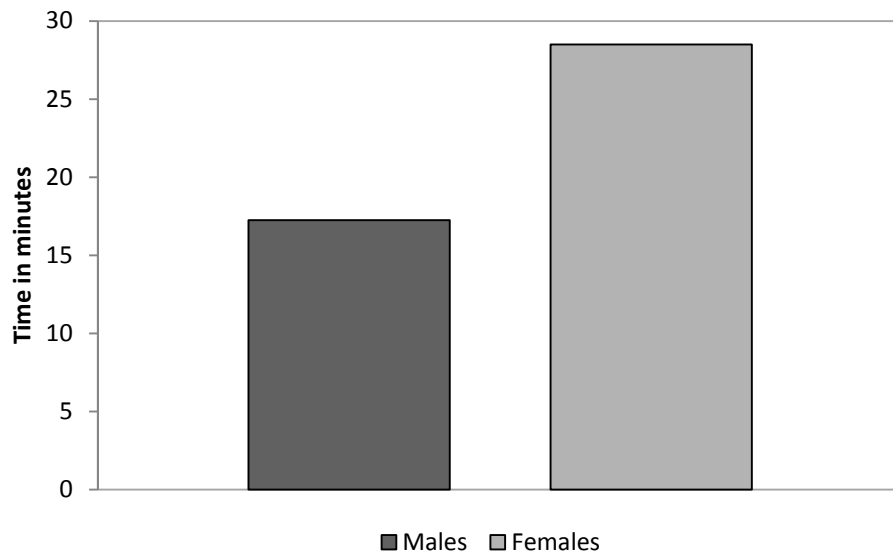


Figure 8: Average time male and female captive cheetahs spent running during cheetah run activity over eight weeks.

3. Release and Re-introduction

Due to the extent of land under livestock production and the habituated cheetah’s need for large uninhabited areas, there is a lack of suitable habitat for release. It’s very important to closely monitor the behaviours of the individual cats to ensure their health and adaptation to their new environment.

As part of CCF's research into the possibilities of re-wilding wild-born captive cheetahs, a first release took place in 2004, when two captive-raised females (AJU 1355 and AJU 1354) were released into Bellebenno game camp. After six weeks they moved out of the game camp and caused CCF's neighbour problems near small stock. The two females were subsequently returned to captivity.

In 2006, a single captive female (AJU 1268) and four cubs were released in Bellebenno. They began hunting and were self-sufficient after 3 months and were released into the 50,000-ha Erindi Game Reserve.

The NamibRand Re-introduction

The NamibRand Nature Reserve (NRNR) was identified as an ideally suited location for CCF's long-term re-introduction project. Consequently, during 2008 and 2009, seven previously captive-held cheetahs (5M, 2F) were released there, in addition to a wild mother cheetah AJU 1576 with her three cubs.

Five collared males (AJU 1347, 1326, 1327, 1347, 1350) were released in December 2008 and monitored via the satellite collar fitted to one of the five cheetahs until May 2010. At this time the collar sent its final report and shut down with its batteries exhausted. Local NRNR staff continued monitoring on an *ad-hoc* basis and reported that the group left the reserve a few weeks later. They were since seen on farmland outside the reserve and appear to be continuing to thrive.

The two orphan captive females (AJU 1506, 1507) were released in the end of May 2009. AJU 1506 was fitted with a radio collar and was seen in good health. 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 and appeared to be surviving successfully. 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.

The wild female (AJU1576) with three (2M.1F) nearly independent cubs (AJU1574, 1575, 1577) estimated at 1 ½ years of age, were translocated to NRNR in January 2009. The cubs dispersed from the female shortly after release, and in December the female was spotted with one cub most likely sired by one of CCF's five males. The GPS collar fitted to this female cheetah prior continued to return good data on her movements during 2011. The map below (**Error! Reference source not found.**) shows movements during the year.

Throughout her travels she has demonstrated that she is not a 'problem animal', by consistently ignoring livestock and instead feeding exclusively on wild game animals, such as springbok. In each case as she moves, local farmers are contacted and a liaison is set up to ensure that they are kept fully informed about her movements, and any concerns that they have can be quickly addressed.

Releasing captive cheetahs back into the wild has had many challenges. However, the NamibRand re-introduction has been a success as there are now cheetahs living in an area where they had been exterminated.

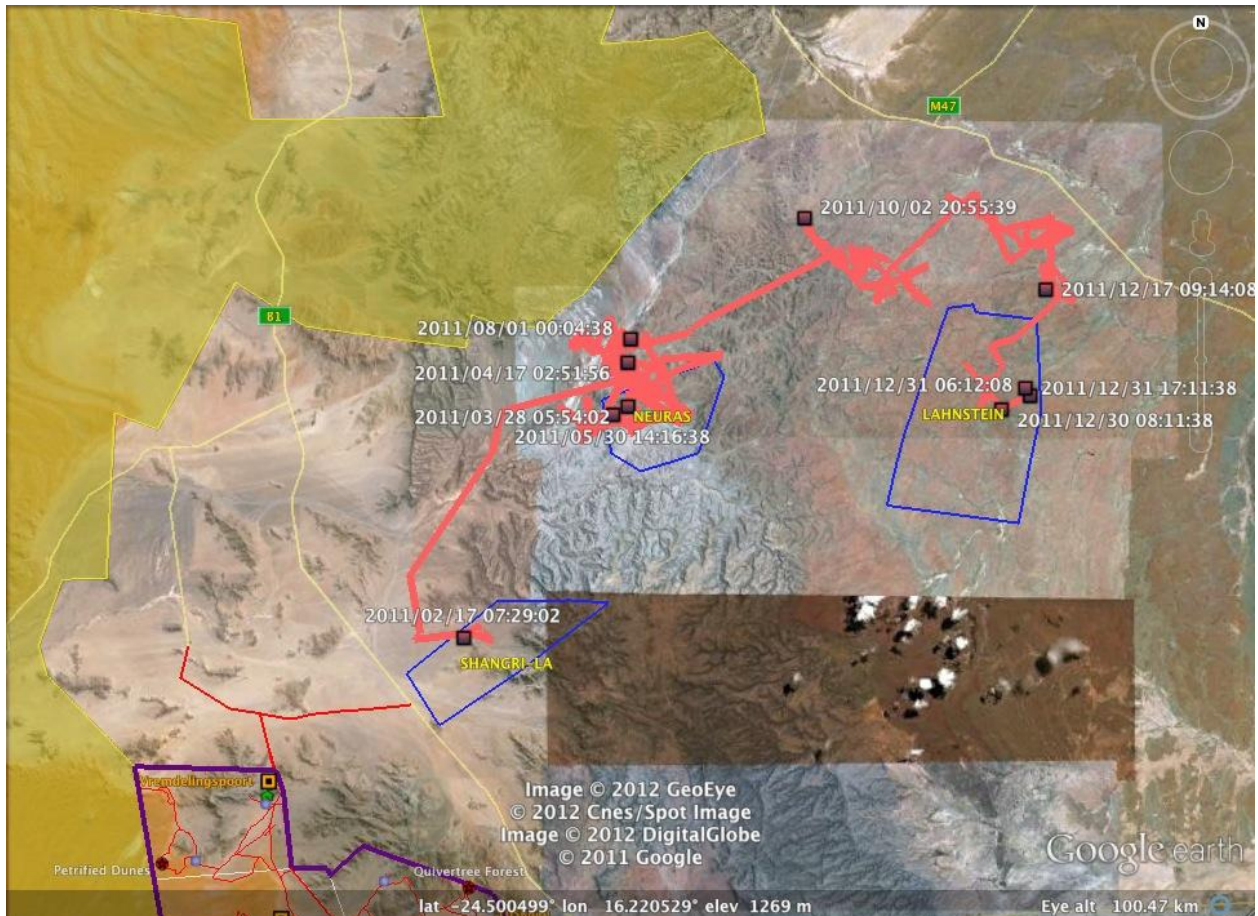


Figure 9: Movements in red of the NamibRand female (AJU 1576) from January to December 2011. Yellow highlighted land refers to the NamibRand Nature Reserve to the west and Namib-Naukluft Nature Reserve to the north.

Bellebenno Game Camp “Training Ground” Re-introduction Project

Based on earlier successes CCF has had with releasing cheetah, the decision was made to use this 4,000-ha camp as a “training ground” in which to prepare previously captive cheetahs for life in the wild. The camp is a means of gathering information on the behaviour of the cats as well as feeding ecology, habitat preference and survival techniques/strategies. CCF hopes to continue this training method to release more cheetahs that have been held in captivity as well as a basis for other organizations and countries to implement their own cheetah reintroductions and releases.

The “Chocolates and Chanel”

Four previously captive-held cheetahs (AJU 1243, 1348, 1349 and 1351) were released into the Bellebenno Game Camp in September 2010. They began hunting and were self-sufficient after two weeks.

After four months of hunting for themselves in Bellebenno, the four females were put back into captivity prior to their release into a 70,000-ha game-fenced area at the Erindi Game Reserve in early January 2011. After spending the night in a boma, the females were released and fed twice (on day 0 and day 5),

after which they were self-sufficient once again. They retained their radio collars in order that Erindi staff can continue to monitor them and use them as a tourism attraction. Unfortunately on 7 November Erindi staff reported that one of the females (Nestle, AJU 1349) died due to a presumed oryx attack after the four females had been seen hunting oryx at that time. This was a sad event but regrettably this sort of thing can and does happen in the wild. The remaining three females appear to be coping very well without her and have been observed successfully hunting since her death.

The “Leopard Pen Boys”

On 13 November 2011, four captive male cheetahs: Omdillo (AJU 1539), Chester (AJU 1540), Anakin (AJU 1545) and Obi-Wan (AJU 1561) were released into the 4,000-ha Bellebenno game camp. The cheetahs were observed daily using an intensive monitoring program, which was gradually reduced as the cheetahs achieved more independence. CCF staff followed the cheetahs closely throughout the day and sometimes during the night. Some data on the cats’ movements and hunting activity is presented below.

Prior to this soft release, the cheetahs were fed two oryx carcasses to ensure they could properly open a carcass as well as familiarise them with game meat. All four were individually equipped with a VHF collar used for daily tracking and monitoring of the cheetahs. After the initial feeding, they achieved their first kill after only two days of freedom.

By 19 December 2011 the cheetahs had made eleven kills that included five different species (oryx, eland, kudu, warthog and steenbok). Omdillo and Chester had made the majority of the kills, but Anakin was also observed killing smaller game (warthog and steenbok). There is a definitive hierarchy among the males, especially when feeding, with Omdillo being the most dominant, followed by Chester, Anakin and lastly Obi-Wan.

On 27 November 2011, Chester was removed from the soft release as a result of injuries found on his lower forelegs that greatly restrained his mobility. He was anaesthetised (via a dart gun) and his wounds were cleaned and sutured. His injuries may have been a result of play-fighting and dominance conflicts between him and the other three cheetahs. Chester returned to the soft release on 7 December 2011.

Later on in December, Omdillo escaped the game camp seven times in total, forcing his way through small warthog holes and was once observed walking through loose wires in the fence. He was retrieved using food manipulation through propped-open swing gates or opening large gates leading to other farms. His bond with the other three cheetahs prevented Omdillo from leaving the fence line to explore the land outside the game camp. Search for females is proposed to be the most likely cause of his continuous escapes.

The cheetahs drank water from puddles after rains. They were supplemented both with food (1-2kg donkey/horse meat) and water when necessary. The four males created and maintained a solid territory that mostly bordered the road and fence line where Bellebenno’s captive female cheetahs are penned. They visited their territory daily and maintained it by constantly scent marking along the roads: spraying trees, defecating on termite mounds, scraping grass with hind legs, spraying/defecating on exposed dirt, neck-rubbing trees, etc.

The project continued until the cheetahs demonstrated their ability to live in a self-sustained manner, i.e. routinely hunting and drinking from any of Bellebenno’s four permanent water holes, whilst maintaining their well-marked territory. They have since been put back into captivity to await transfer to a suitable release location.

Monitoring the “Leopard Pen Boys”

During the first three weeks, the four males mostly kept around the cheetah pen enclosures to the north of Bellebenno (Figure 10). It is presumed that the males kept close to this fence-line because there are female cheetahs kept in the pens adjacent to the Bellebenno fence, tempting the males to stay nearby.

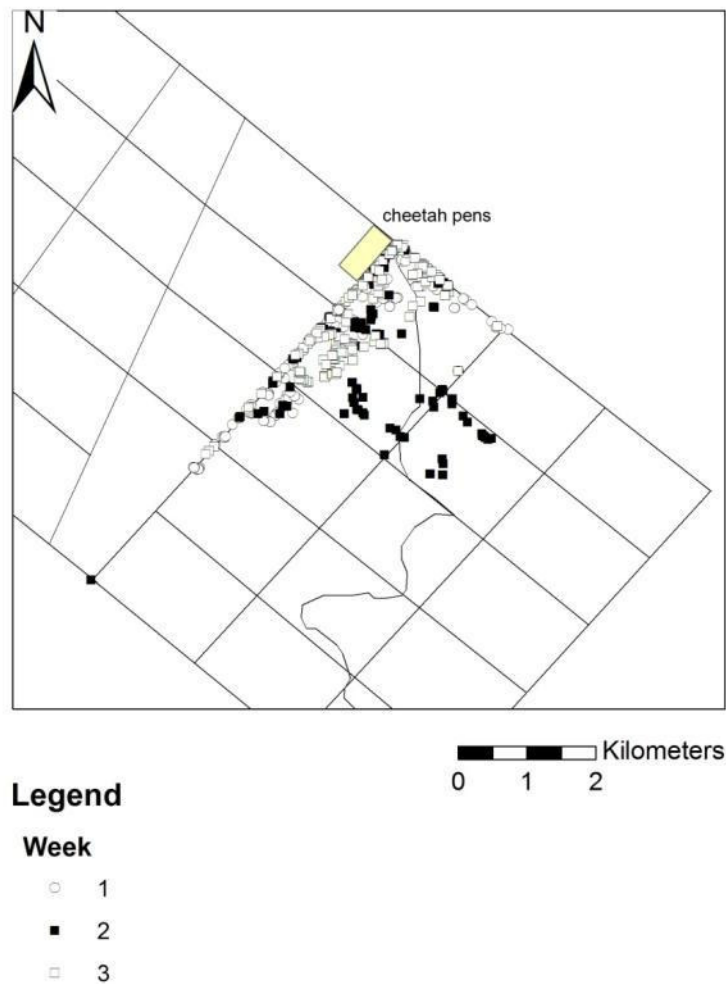


Figure 10. Movement patterns of the four males during the first three weeks of the release

During weeks 4-6 (Figure 11) the males explored more of the Bellebenno camp and ventured south-west in weeks 4 and 5. However, one male managed to escape a number of times to the neighbouring property to the north of the site in weeks 5 and 6. This shows the independent nature of the cheetahs, which is a good sign for their future re-wilding.

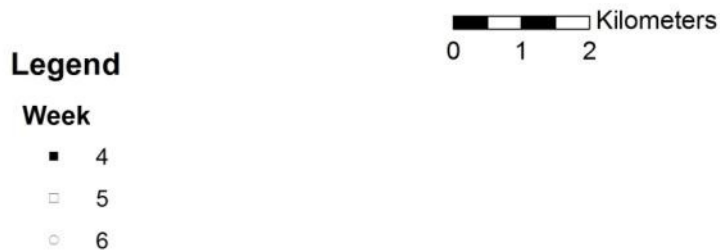
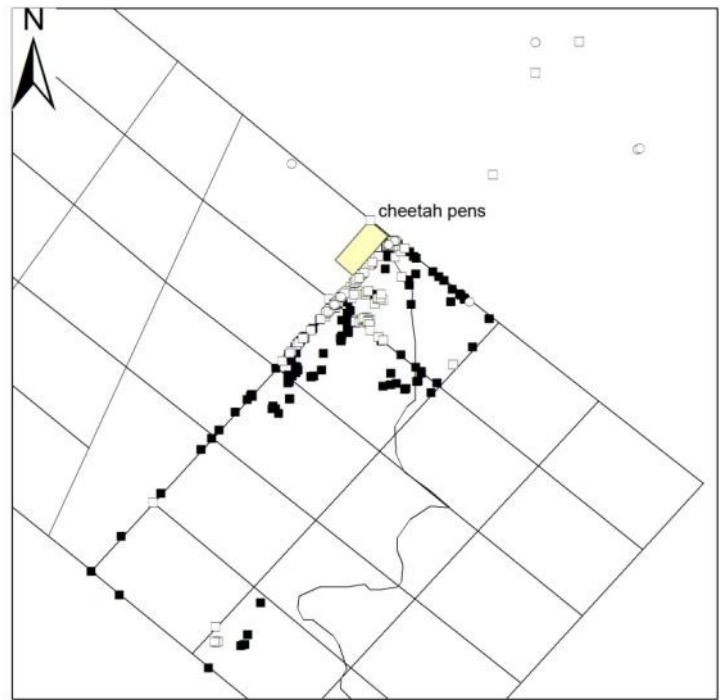


Figure 11. Movement patterns of the four males during weeks 4-6.

The group was observed hunting on ten occasions throughout November, of which four were successful hunts (Figure 12). The entire group were involved in four hunts, with AJUs 1540 and 1561 both hunting independently once each during November.

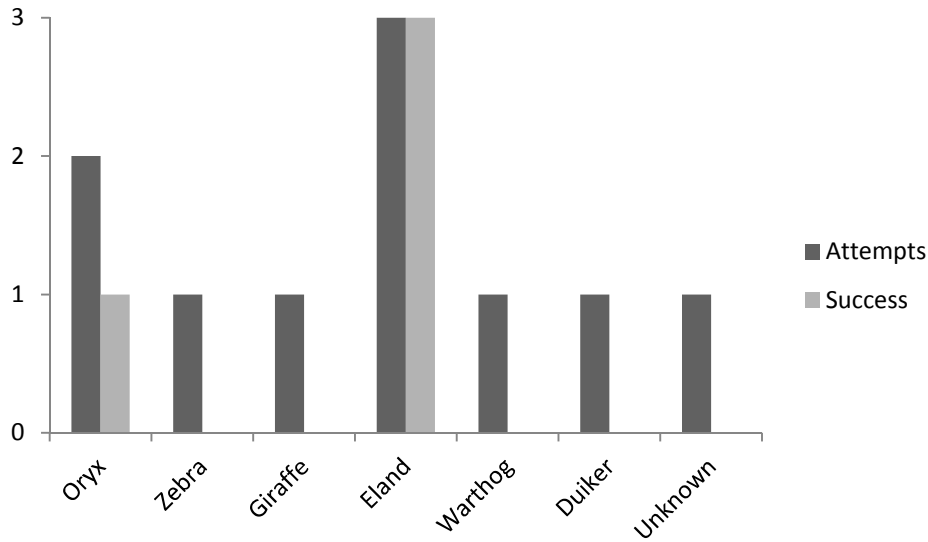


Figure 12. Number of attempted and successful hunts and species for the four males.

Their main prey base consisted of eland, which in all cases were calves. They had a very high success rate with eland calves, with all attempts resulting in a kill that staff witnessed. Other species were hunted much less frequently but with less success.

Data were also analysed to determine their preferred vegetation type, especially during hunts. Open areas of vegetation were not used at all for any hunt attempts. Closed vegetation was used predominantly, with dense vegetation used only occasionally for hunt attempts (Figure 13). All successful hunts were undertaken in closed vegetation.

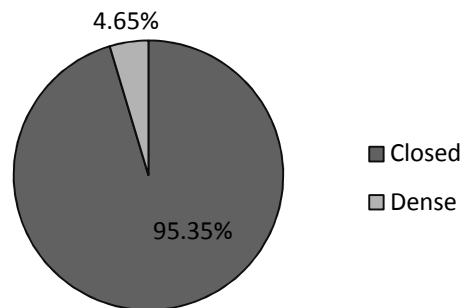


Figure 13. Vegetation type where attempted hunts were made

4. India Reintroduction Project

In 2009, the CCF was invited to participate in a programme by the Indian government to reintroduce cheetahs to that country after nearly 60 years of extinction. The plan, headed by Dr. M.K. Ranjitsinh, who served as India's first Director of Wildlife Preservation and is now Chairman of the Wild Trust of India (WTI), would reintroduce cheetahs in stages over the next decade, possibly starting in early 2012.

In an advisory capacity, CCF has been working with the WTI and India's authorities to discuss the best strategies for this reintroduction and has conducted field inspections in order to determine the most

viable release areas. The Palpur-Kuno Wildlife Sanctuary, a 344,686 km² (133,084 square miles) reserve in central India, has been chosen for the first reintroduction. The sanctuary is home to many species, including wolves, leopards and nilgai --Asia's largest antelope.

Although cheetah are genetically very similar (O'Brien 1985, Driscoll 2002), regional differences in suitable habitat characteristics such as adequate prey, prey species diversity, inter-specific large predator relations and human-wildlife conflict may affect a successful reintroduction. It was against this background that an assessment and fact-finding mission to the Kuno Wildlife Sanctuary (KWS) and surrounding area was conducted by the principal Cheetah Task Force and Dr. Laurie Marker from 6-9 August 2011 in order to determine the suitability of the area for cheetah reintroductions. During this time, various consultative meetings were held, resulting into the development of an action plan.

Rapid survey methodologies were utilised and observation surveys were conducted on both sides of the Kuno (east and west) using prominent routes over a three-day period. Figure 14 shows the route taken by the Cheetah Task Force from Gwalior (in the east) during the three-day survey to and around KWS. Data collected from the rapid survey provided a great deal of insight into the habitat, prey availability and local community lifestyle and proximity to the proposed KWS cheetah release area. Observations of features such as wildlife, livestock, other domestic animals, water availability, villages/settlements and people were recorded and a GPS file was created. Animal sightings were quantified according to species, cluster size, sex and age category (calf, juvenile, adult). Based on findings resulting from these surveys, the area was deemed suitable for cheetah

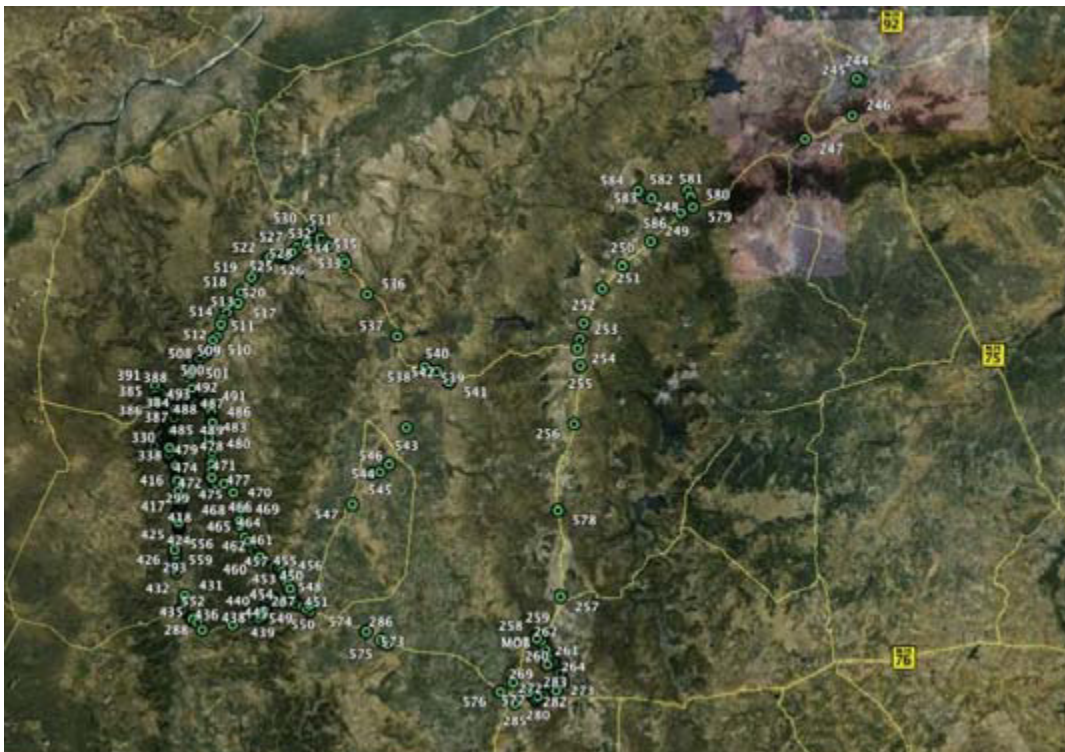


Figure 14: GPS points of KWS and surrounding areas taken by Dr. Marker during 3-day assessment trip to the area 6-9 August 2011

CCF has made suggestions about necessary infrastructure changes as well as community involvement and education. CCF advises that local communities be counselled in living harmoniously with wildlife, particularly predators, through training and communications programmes. Sustainable tourism will be encouraged so that jobs and business opportunities for the local people can be created. Conservation biologists from India have attended several of CCF's international courses in Cheetah Conservation Biology, and in Integrated Livestock, Wildlife and Predator Management. These courses focus on capacity building and mitigating conflict between people and wildlife, with a special emphasis on the cheetah. Dr. M.K. Ranjitsinh and colleagues have visited CCF in Namibia to discuss these topics further.

Lessons learned from CCF's proven protocol for reintroducing wild-caught cheetahs that allows the animals to perfect their skills in a safe environment before being released will assist local Indian NGOs with the reintroduction. In addition, CCF will provide an experienced ranger to train local rangers and WTI researchers in cheetah monitoring and behaviour.

The reintroduction has been approved and budgeted by the Government of India. It will return cheetahs to the grasslands ecosystem where they used to thrive. Some parties have voiced their fear that the reintroduction of the cheetah will diminish efforts to save the tiger. There is also concern about the genetic history of Asiatic cheetah. As there are no living Indian cheetahs and, thus, no concern about mixing populations, the Indian programme plans to import cheetahs from southern Africa. CCF respects the Indian Government's stance on these issues and is providing assistance when appropriate.

CCF is currently gathering information on 10 animals for possible export to India, and pending all import permits necessary to abide by CITES' regulations. This first group of cheetahs needs to settle into the reserve, learn to find the appropriate prey to hunt and kill, and to begin breeding. The success of this first group of cheetahs will be in their offspring learning how to hunt and to begin breeding.

D. Ecosystem Research

As 70% of the country's game inhabits farmland, assessment of the Namibian ecosystem for long-term habitat viability for the cheetah and its prey is a part of CCF's primary, ongoing research.

1. Weather Monitoring

We continued and expanded the rainfall data collected on our farms, placing more rain gauges out. In addition, we began collecting daily high- and low-temperature readings. The CCF's farms had good rains this year, averaging 725 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 program 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, categorising different vegetation, densities, and distribution of game species. This information is correlated with data collected on rainfall and temperature.

a) Big Field Game Counts

CCF’s big field, known also as the “Little Serengeti”, is an old cultivated land of 1,492 hectares. This field, which is one of the largest open uncultivated areas in the north-central farmlands, attracts high numbers of free-ranging game. This area provides an ideal case study to monitor ecological successional trends. Apart from being a high prey-density area for cheetahs and leopards, this area has huge potential for eco-tourism. For this reason, CCF has been conducting monthly counts since 2004.

During 2011, a total of 34 replicate counts were conducted on the CCF big field with the assistance of Earthwatch volunteers, students, and CCF staff; 17 occurred in the first half of the year (Jan-Jun), and 17 in the second half (Jul-Dec). All data from these surveys were entered into the main database and preliminary results on trends were produced. For another consecutive year, the density of some of the common wildlife on the big field showed a decrease. The decrease during 2011 was of 1.72% in comparison to 2010 (Figure 15). Declines were observed only amongst the springbok (55.78%, $X^2 = 1.21$, $df = 1$, $p = 0.27$) and warthog (1.93%, $X^2 = 1.02$, $df = 1$, $p = 0.88$). Slight increases were observed amongst the oryx (3.74%, $X^2 = 0.07$, $df = 1$, $p = 0.8$) and red hartebeest (0.12%, $X^2 = 0.01$, $df = 1$, $p = 0.91$) during 2011.

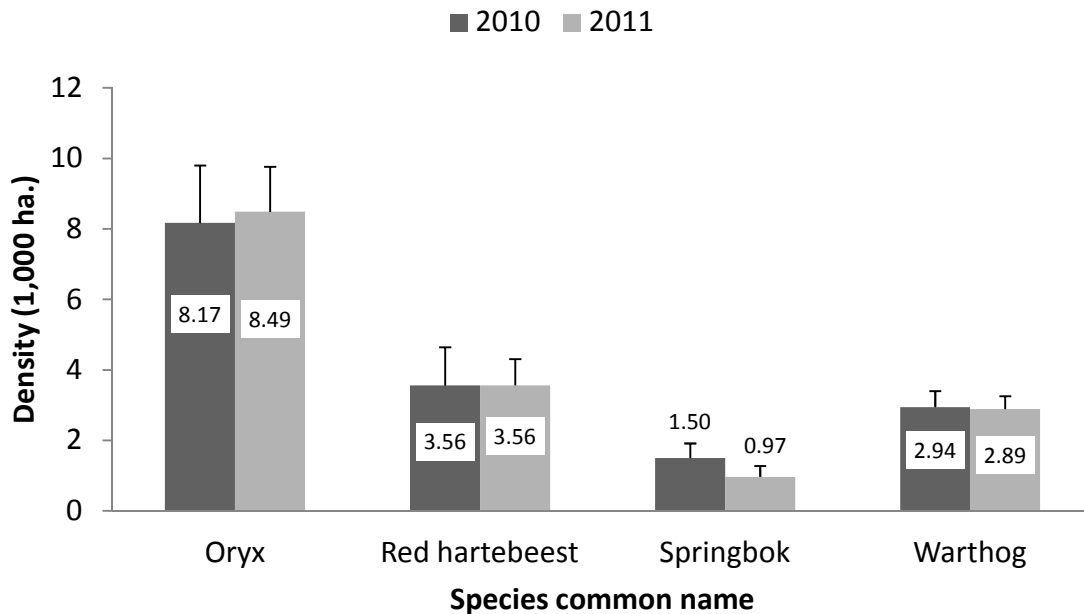


Figure 15. Comparisons of annual density for common wildlife observed on the CCF big field counts 2010 and 2011.

Analysis on the CCF big field game counts revealed that oryx, red hartebeest and warthog were the most common animals, which was consistent with the preceding 2010 counts. Non-frequent species observed included eland and steenbok. The highest number of springbok was recorded during January with a density of 4.49 ± 0.99 ind./1000 ha. Game densities were highest during the January-June period and declined by 5.89% during July-December (Table 1). Density estimates were calculated using both distance sampling and strip methods (Figure 16). Estimates for the warthog were much lower using the

strip method, whereas all other results were almost similar between both methods. The number of individuals counted was highest between January and April, which is the hot and wet season (15.43 ind. /1000 ha.), and declined in the dry seasons: the cold and dry (12.9 ind. /1000 ha) and hot and dry (10.9 ind. /1000 ha) (Table 1, Figure 17). Seasonal declines in the number of animals sighted were consistent with the preceding years.

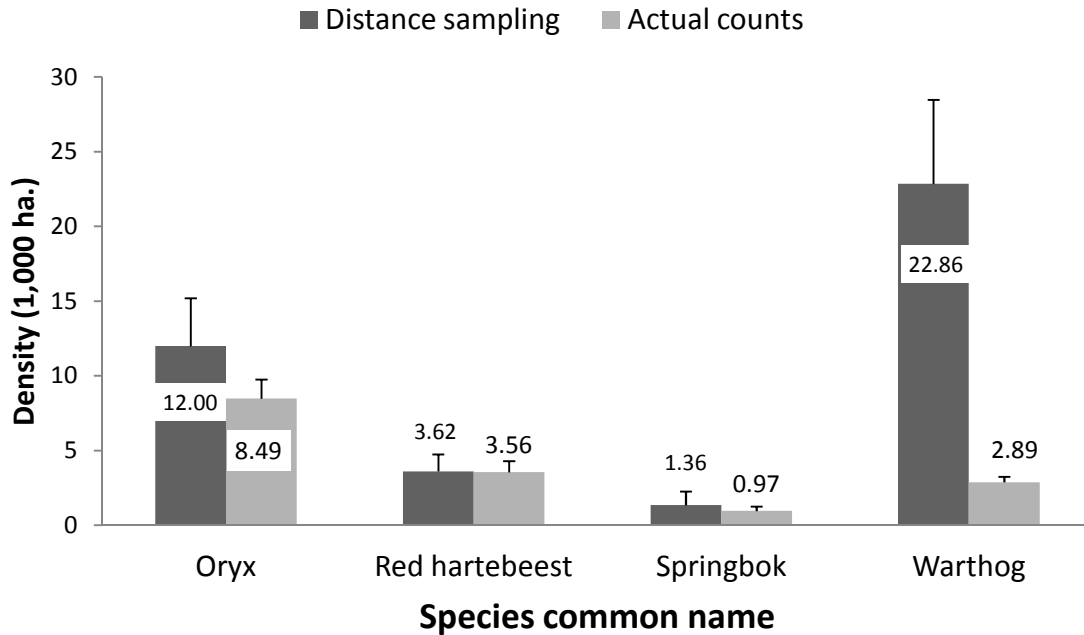


Figure 16. Number of animals counted on the CCF big field derived from distance estimates.

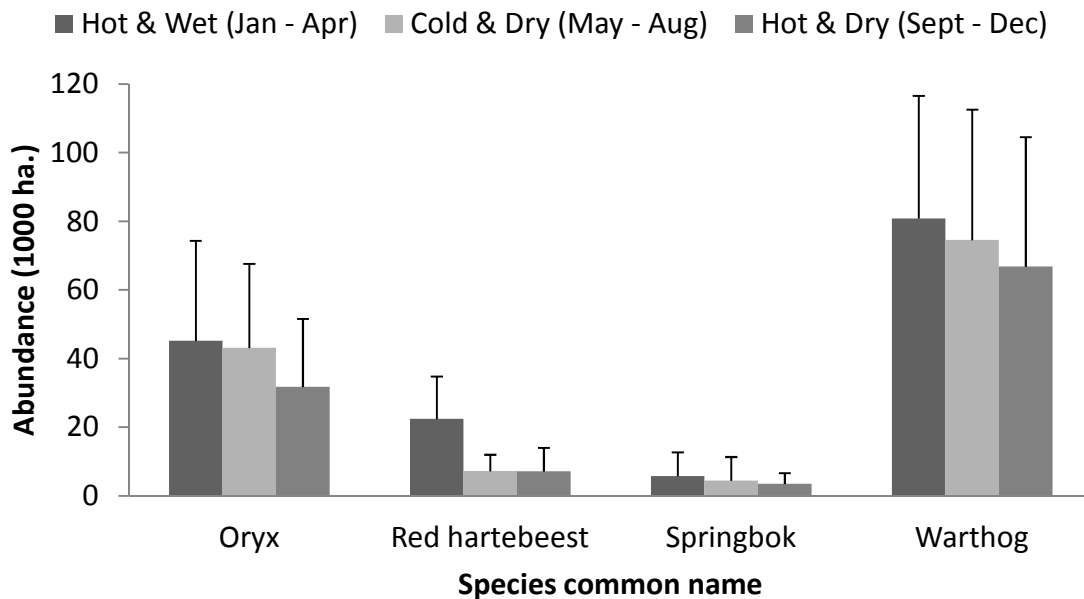


Figure 17. Comparisons of game density according to season in 2011. (Distance estimates)

Table 1. Number of individuals (1000 ha) of common game species found on the CCF big field in 2011 (based on actual number of animals sighted).

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eland	-	-	-	2.90	2.01	11.62	-	-	-	-	-	-
±				3.42	3.94	12.56						
Springbok	44.91	27.48	5.53	5.14	6.26	2.68	14.08	21.00	10.95	9.38	16.42	0.67
±	9.90	20.40	3.53	6.80	11.61	3.03	18.22	6.80	13.36	1.52	15.11	1.31
Warthog	25.92	14.41	28.32	16.98	28.82	27.48	31.05	33.74	40.88	33.07	50.27	18.10
±	7.48	6.97	7.74	1.91	4.01	7.31	10.35	7.44	7.31	11.26	27.59	4.74
Red hartebeest	50.49	38.87	57.64	23.24	11.84	57.19	58.53	32.84	20.33	31.50	24.13	10.72
±	26.39	18.58	15.95	9.05	10.33	19.74	7.78	25.62	17.30	30.25	9.20	12.49
Oryx	108.13	106.23	117.46	78.19	65.01	53.84	55.85	60.32	49.37	110.37	140.75	87.58
±	24.93	38.55	38.07	30.38	40.45	28.82	21.40	11.85	17.30	56.91	40.72	49.02

b) Circuit Counts

Since 1996, CCF has been conducting a 55-km 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 43 game counts were conducted on circuits A & B. Of these, 20 were conducted between January and June, and the remaining 23 in the second half of 2011.

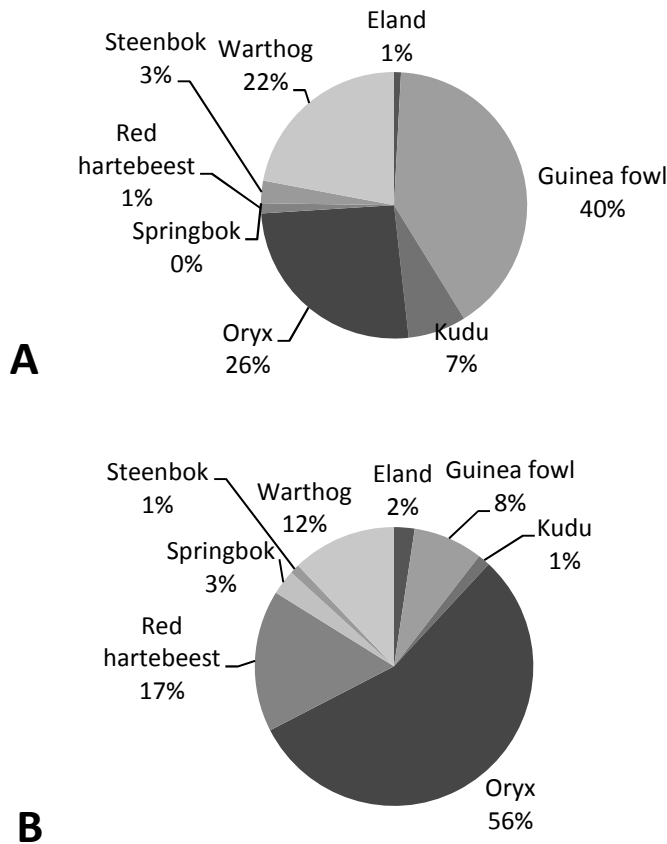


Figure 18. Game distribution on the CCF circuits A & B counts during 2011.

Oryx encounters in 2011 were the most frequent, followed by warthog, red hartebeest and guinea fowls (Figure 18). Trends of game encounters were almost similar to the previous 2010 period. Game species sightings were mostly commonly sighted on circuit B, with 74% of the actually total number of observations. Both cheetah and leopard sightings were recorded on both circuit counts. A single cheetah sighting of an identified individual (Hi-Fi) was confirmed in October near the CCF big field. Three leopard sightings were also confirmed in March, June and September and consisted of an adult female and cub and an unidentified adult. Sightings of common wildlife were confirmed to represent 63% of the total number of individuals counted in 2010, therefore showing a decline in 2011 (Table 2).

Table 2. Actual number of common wildlife observed on the CCF circuits A & B in 2011 (presented as average individuals between counts).

Common name	Month											
	Jan (n=3)	Feb (n=4)	Mar (n=3)	Apr (n=3)	May (n=3)	Jun (n=4)	Jul (n=5)	Aug (n=4)	Sep (n=4)	Oct (n=3)	Nov (n=4)	Dec (n=4)
Duiker	1.00					0.25	0.20	0.25	0.25			0.25
Eland	3.33				10.67	1.75	1.40	2.00			0.25	
Guinea fowl	13.33		2.67		9.00	4.50	9.20	6.25	4.75	2.33	28.50	23.75
Jackal	1.67	0.25			0.67	0.50	0.40	0.50	0.75			

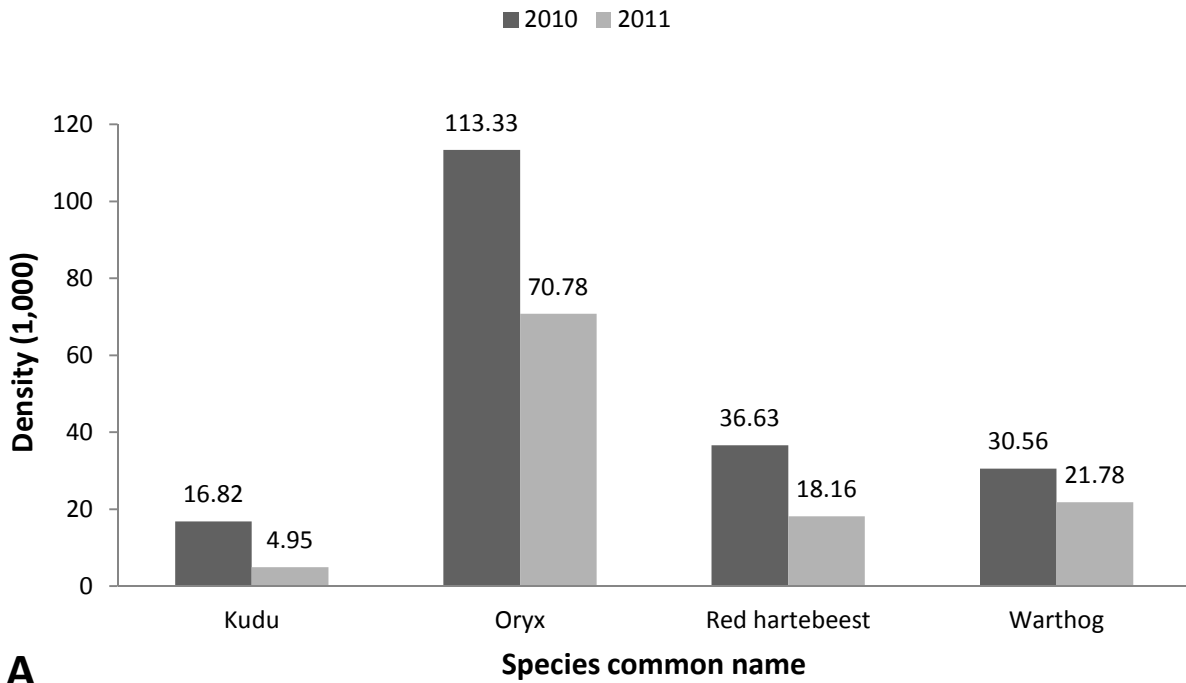
Kudu	4.00	1.00	1.00	1.00	0.33	1.00	1.20	1.00	3.25	1.33	4.00	
Oryx	91.33	27.00	5.00	32.00	41.33	17.50	14.00	33.75	26.00	67.67	52.50	31.00
Red hartebeest	27.00	1.25		11.00	6.67	6.25	7.20	19.75	18.50	1.67	10.75	5.75
Springbok	5.33	3.25		0.33	1.67	0.75	0.40	0.50	2.50	1.67	4.00	0.25
Steenbok	1.33	0.50		0.67	2.33	0.75	0.80	1.50	1.00		1.25	1.00
Warthog	25.67	3.25	6.67	9.67	19.33	2.50	2.00	7.50	13.50	10.00	9.75	10.75

Game density

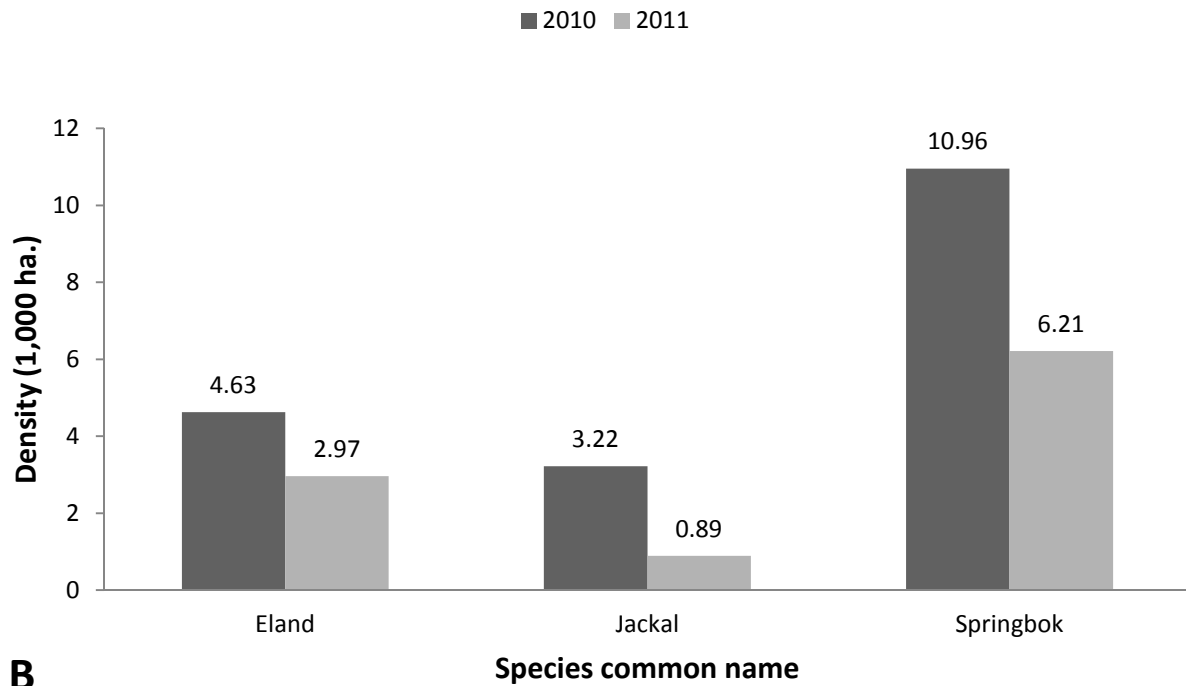
Over 30 wildlife species were observed during the circuit counts and comprised small, medium and large ungulates, game birds and local predators. Density estimates of the common sightings were calculated using the variable and fixed strip methods (Table 9). Evaluations of these estimates against actual population densities were not performed; however a comparison between the two methods was done in order to determine whether they yielded similar results.

Strip count density estimates (Figure 21 A - B) showed an overall decline of the seven common species in 2011. Density estimates derived from the distance method were slightly higher amongst the eland, jackal and warthog than those from the strip count (

Table 3). However, such differences were not statistically significant. The strip count densities were significantly higher amongst the oryx and red hartebeest, whereas the kudu density was insignificantly slightly high if compared to the distance density results. Results obtained from the two methods along with local knowledge are important for a final conclusion regarding wildlife densities of the common sightings. As an example, estimates of the oryx (160 ind/1000ha.) were found to be conservatively reliable using the distance method.



A



B

Figure 19 A & B. Density estimates derived from the strip method (animals per 1000 ha.) of common wildlife species observed on farm Elandsvreugde for the reporting period 2010 – 2011 circuit counts.

Table 3: Density (1,000 ha.) of the most common wildlife species observed on CCF's circuits A & B in 2011.

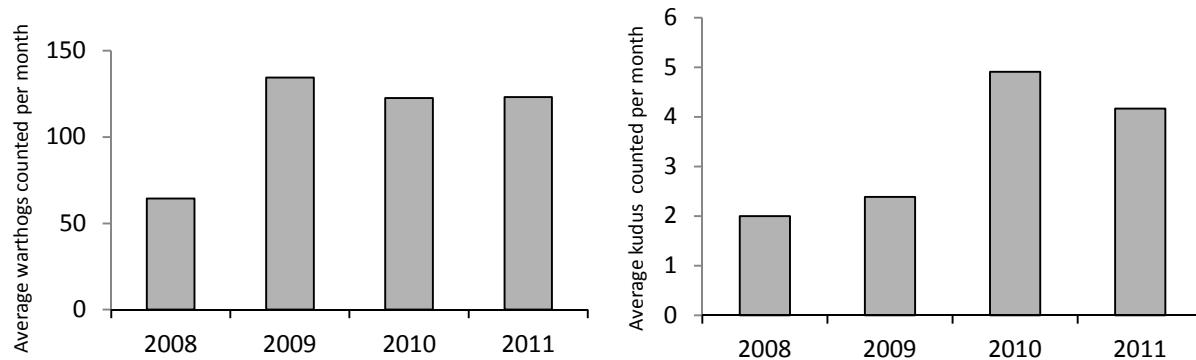
Common name	Distance sampling					Strip count sampling				Variable vs. strip densities		
	Circuit A	Circuit B	Mean	95% CI -	95% CI +	Circuit A	Circuit B	Mean	95% CI ±	χ^2	df	P
Eland	3.37	4.35	3.86	1.26	11.85	0.81	5.12	2.97	4.23	0.26	1	0.61
Jackal	0.71	1.83	1.27	0.72	2.25	0.61	1.18	0.89	0.56	0.53	1	0.47
Kudu	3.31	2.29	2.80	1.63	4.80	6.87	3.02	4.95	3.77	0.72	1	0.39
Oryx	7.40	25.15	16.28	12.66	20.92	23.23	118.33	70.78	93.20	34.14	1	0.00
Red hartebeest	0.29	3.54	1.91	1.30	2.82	1.21	35.11	18.16	33.21	13.20	1	0.00
Springbok		1.44		0.79	2.62		6.21		3.58	3.10	1	0.08
Warthog	20.10	49.91	35.00	12.02	101.90	17.78	25.78	21.78	7.85	3.10	1	0.08

c) Bellebenno 12-hour Waterhole Counts

To assist in developing a management plan for the 3,650-ha game-fenced Bellebenno camp, CCF started monthly 12-hour waterhole counts in 2008. Earthwatch and other CCF volunteers assist with these ongoing counts, which involve sitting in hides at each of 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, as well as 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 6 a.m. to 6 p.m., with two counters in each hide.

In 2011, a waterhole count was conducted for each month of the year. From these 12 counts a total of 9,119 animals were counted from 23 different species.

Warthog, oryx and red-billed francolin were the most common species sighted. The average number of warthogs counted each month in 2011 was 123, which was similar to the previous two years' results (Figure 20 **Error! Reference source not found.**). Kudu showed no significant change from last year with an average of four counted this year (Figure 20). Oryx showed a marginally lower number of animals to previous years with 33 animals counted (Figure 20). Red hartebeest continue to be seen in very low numbers, with an average of one per count in 2011 (Figure 20). The average number of eland counted was 10, which is slightly lower than last year (Figure 20).



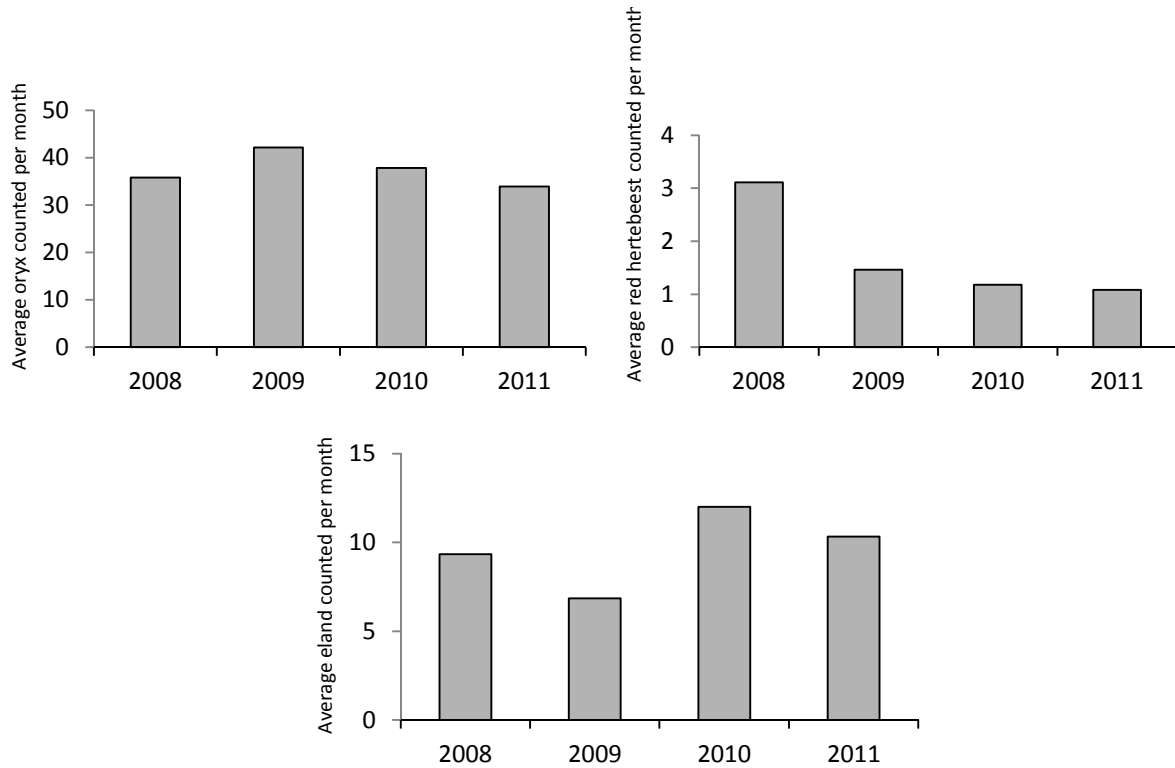


Figure 20: Average number of animals counted per waterhole count for each species over January to December period, 2008 - 2011.

Densities of the five main game species (warthog, oryx, eland, kudu and red hartebeest) and monthly rainfall are shown in Figure 21. Warthogs consistently show the highest densities over the year, followed by oryx, eland and plains zebra. Red hartebeest, kudu and giraffe have consistently been at very low densities since the start of the counts.

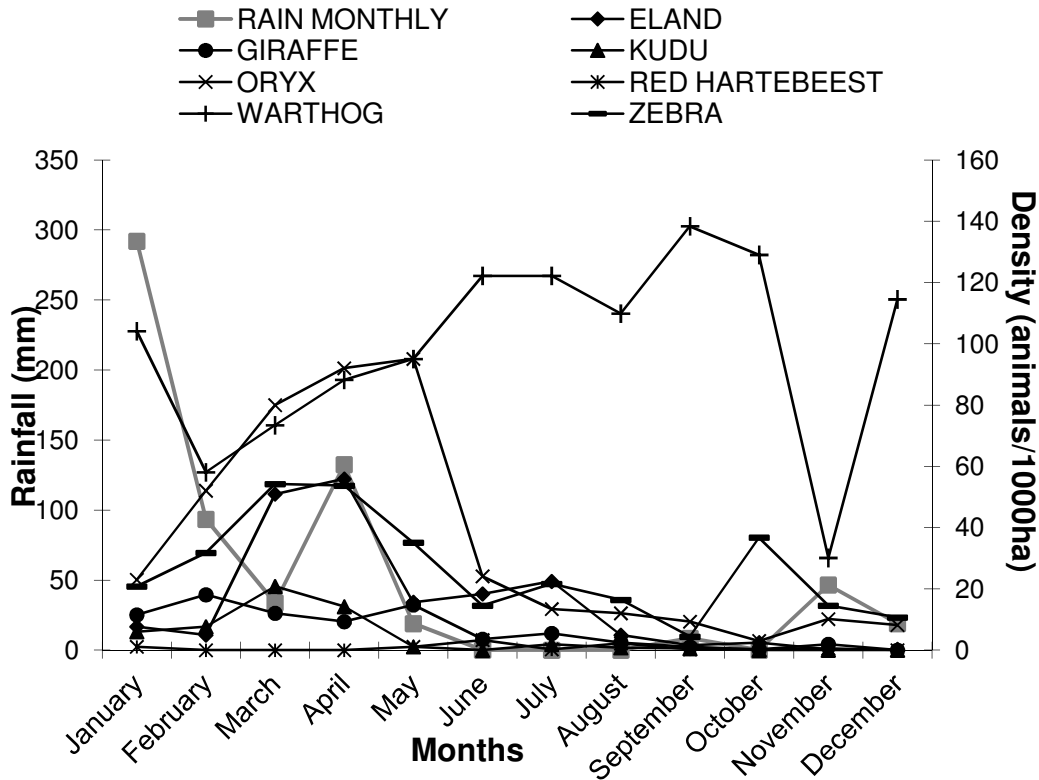


Figure 21: Densities of animals counted on waterhole counts from January to December 2011 with monthly rainfall overlaid.

The sharp dip in warthog numbers in November could be caused by the unusual amount of rain for this time of year, causing surface water to be present in other areas of the reserve. This would mean that warthogs were not forced to drink at the waterhole and therefore were not counted.

a) Annual Waterhole Count

A 12-hr new moon waterhole count was conducted in the Waterberg Conservancy on 30 July 2011. The annual Waterberg Conservancy waterhole count provides population and density estimates and trends of various game species on the Waterberg Conservancy farms. The count also provides information on group sizes and population demographics and is vital for long-term monitoring. Through continued regular monitoring of wildlife populations utilising the Conservancy lands, more effective conservation of game species will be possible. Data from the counts is used to determine which species and sexes should be hunted to sustain a healthy population, as well as to highlight those that need to be conserved. Regular monitoring of key indicator species gives an indication as to the health of the ecosystem in general, signalling problems as they emerge and while they are still manageable.

This year 25 waterholes were counted across seven farms within the Waterberg Conservancy. The observers consisted of CCF staff and volunteers, volunteers from the Otjiwarongo Arts Centre, Earth Expeditions group from Miami University Ohio and students from Mesa Community College, Arizona. A total of 3220 individual animals representing 26 species (18 mammals, 8 birds) were recorded, with warthog, guinea fowl, francolin, kudu, and Chacma baboon being the most common species. For all species a drinking frequency of once per day was assumed ($a=1$), additionally a frequency of $a=5$ was

also used for oryx, eland and red hartebeest as there is limited data available on the drinking frequency of these species.

The change in densities of the five main game species, in combination with rainfall, is shown in Figure 22. During the past 16 years we can see some trends appearing in the populations of main game species. Red hartebeest have increased in numbers since 1995 but still remain at relatively low densities with a high level of variation. Kudu numbers have fluctuated a lot since 1995 and seemed to have declined in the past year. The density of eland, although higher than 1995-2001, is still quite variable. Warthog and oryx densities appeared to be on an increase until this year where they have declined. The past year we have had a very wet rainy season, which may have contributed to the decline on game species in the area, a trend we have also seen in the past during very wet years.

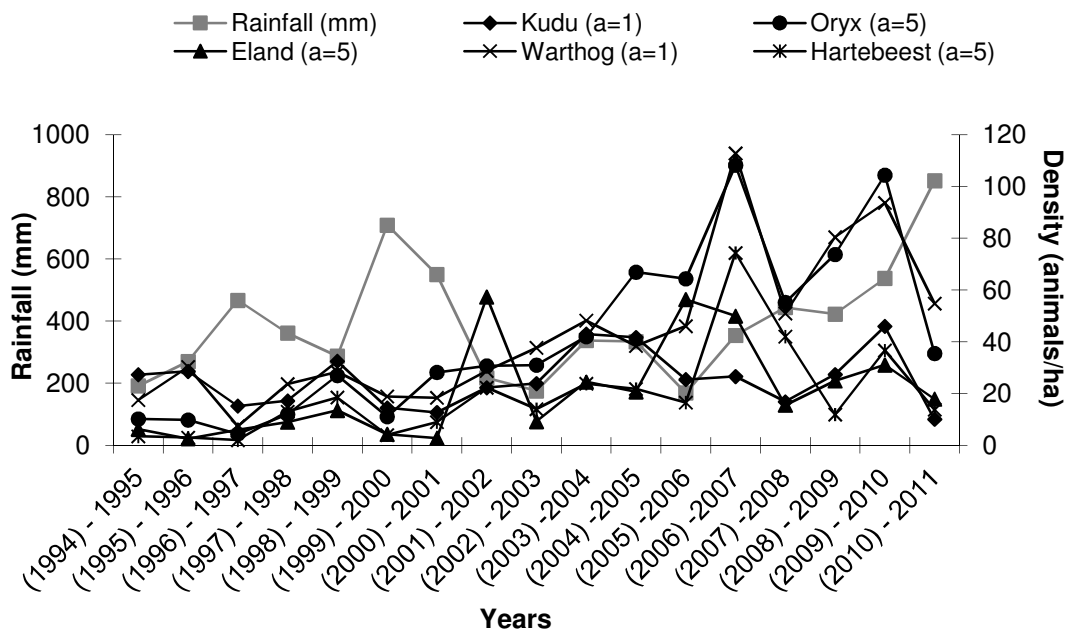


Figure 22. Density estimates (animals per 1000ha) for the five main game species across the Waterberg Conservancy 1995-2011.

b) Annual Strip Counts

Strip counts were performed on six of CCF farms concurrently, for three consecutive days in August 2011. All game animals seen on these transects were counted as the perpendicular distance from the car recorded.

Over the three days, a total of 1524 animal were counted from 27 species. The most common species were guinea fowl, red hartebeest and oryx. Highest numbers of game were recorded on Elandsvregde, followed by Osonanga, Bellebenno and Boskop. Figure 23 illustrates the distribution of actual numbers of the main game species counted in each farm. The main species counted on Osonanga were red hartebeest (24%) and guinea fowl (18%). The main species counted on Elandsvregde was red

hartebeest (34%) and oryx (24%) and Bellebenno were guinea fowl (30%) and oryx (27%). For Boskop the main species sighted were francolins and guinea fowl (35% and 28%), for Bynadaar, guinea fowl and kudu (64% and 8%) and for Cheetah View, kudu and warthog (30% and 27%).

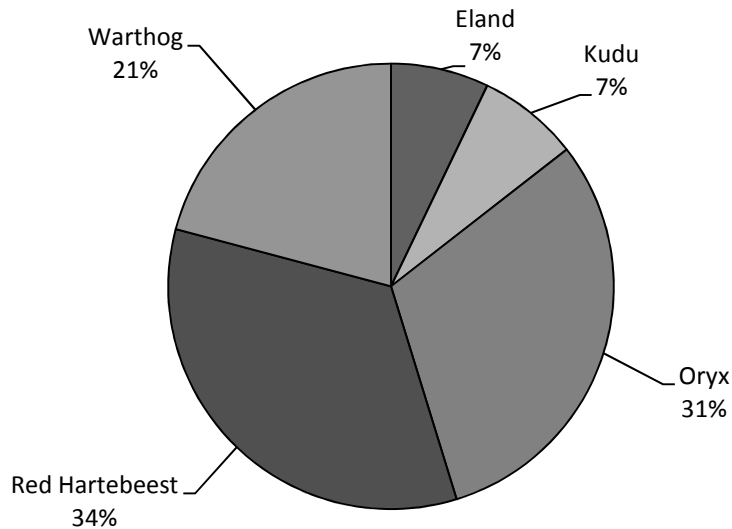


Figure 23. Distribution of actual numbers of main game species counted across CCF farms during strip counts 2011.

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 each of the transects. The recorded strip widths were then averaged to estimate total area surveyed, which was used to calculate density. The *variable* width was calculated using the perpendicular sighting distances recorded for each animal. This allows us to calculate an estimated strip width and the probability of detecting an animal within a strip area to then estimate the density using the program DISTANCE.

c) Comparison between Strip Counts and Waterhole Counts on CCF Farms

The different density estimates, animals per 1000 ha, for waterhole counts, as well as strip counts using fixed width, or strip counts using variable width for all CCF farms combined are shown in Figure 24. It is clear from looking at these results that there is agreement between the different methods of estimation. Although there is a lot of variation with all of these methods, there is no significant difference between the density estimates for each species for either of the strip counts using fixed or variable widths or the waterhole counts ($F_{2,75} = 1.6$, $P = 0.208$). This precision gives us greater confidence in these density estimates, however, taking into account the high level of variation, using multiple methods to estimate density is still recommended.

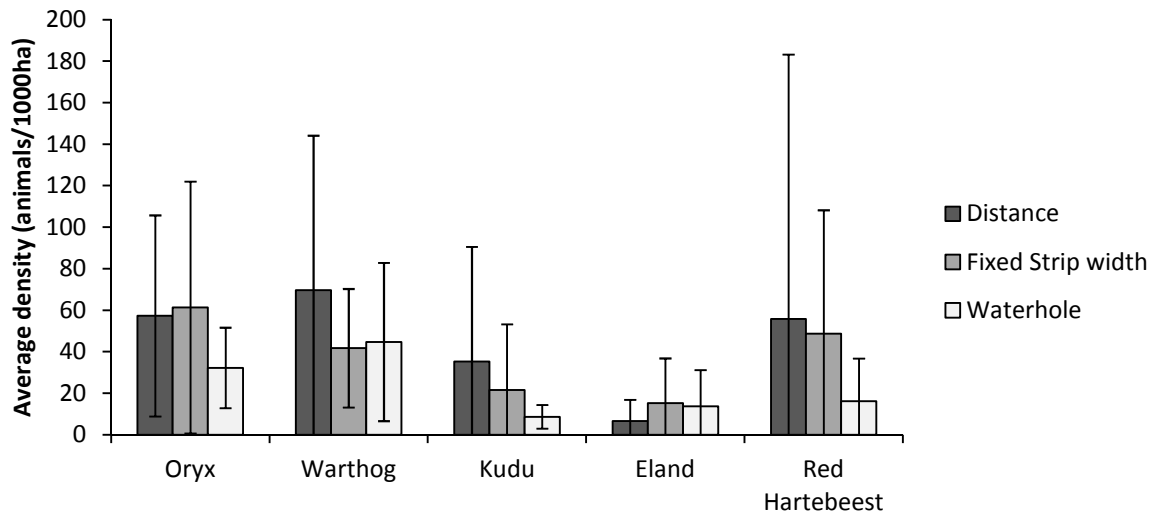


Figure 24 Estimated densities (animals per 1000ha) for CCF farms 2011 from waterhole counts and strip counts (both fixed and variable width approaches). Estimates are averaged over the six CCF farms counted +/- SD.

3. Waterhole Count Research

After four years of waterhole counts within the Bellebenno release site, CCF has gathered a lot of valuable information not only on game trends, but also the behaviour of the animals counted in relation to the effects of rainfall. In the second half of this year, intern Marieke Reijneker of Van Hall Larenstien University in the Netherlands worked on combining the annual data collected to look at comparisons of game trends across four waterholes within Bellebenno. Monitoring animals in a fenced area is important because it is a closed ecosystem where migration is restricted. It is also helpful when making management decisions that can help species' conservation, especially as Bellebenno is used as a cheetah training ground where prey is hunted. The research looked into the effect cheetah hunting has on prey numbers. The species used for this analysis included eland, giraffe, kudu, oryx, red hartebeest, warthog and zebra.

Since counts are conducted monthly throughout the year, the effectiveness of these counts was evaluated, particularly related to the influence of rainfall on CCF's results with regard to water-dependent (warthog, zebra, kudu) and water-independent (eland, giraffe, oryx, red hartebeest) species' population estimates. It was expected that differences in population estimates occur between wet and dry season, where numbers in the dry season are higher than the wet season, caused by rainfall. This would be because animals could find surface water elsewhere in the reserve and were not restricted to drinking at the waterholes.

Differences in means of population densities between the dry and wet season were proven significant for two out of the seven study species (eland, warthog), though all estimates appear to be influenced by rainfall (Figure 25). A statistical correlation test showed that rainfall is negatively correlated with population estimates of three species (eland, oryx, and warthog). Analysis of variance showed that water-dependent species seem to be more affected by rain and showed significant differences in population density means between the wet and dry season, whereas water-independent species did not. This study showed that rainfall is an influencing factor on waterhole counts of water-dependent species, which can make count results of wet season's months unreliable.

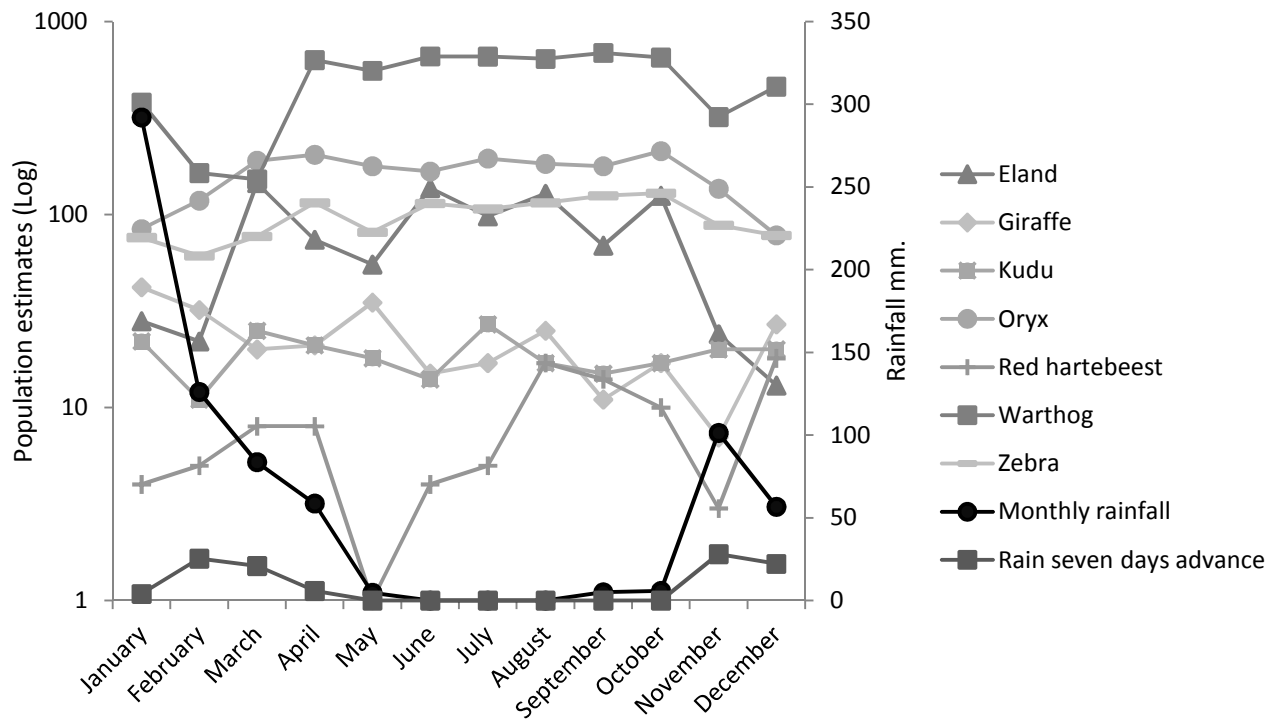


Figure 25: Log species' population estimates in comparison to monthly rainfall and rainfall seven days in advance of the monthly count

4. Fixed Point Photography

To monitor long-term vegetation changes over time, CCF has taken fixed-point photographs since 1998. During 2011, photographs were taken during the dry and cold (May-Aug) seasons at 11 locations at farms Elandsvreugde and Osonanga, using digital cameras.

The progression of bush encroachment at fixed stands was analysed using a 13-year database. Photographs were taken at 3-year intervals from 1998 to 2011, with the 1998 photographs used as the baseline.

The data were analysed to answer the following research questions:

- 1) Has bush encroachment increased since 1998?
- 2) Do soil types, rainfall and botanical composition influence the rate of vegetation change?
- 3) What tree/shrub species can be identified in the photographs and does species composition change over time?
- 4) Why are some sites more vulnerable to bush encroachment than others?

Photographs were provided with grid cells with unique identification codes (Figure 26). Following this procedure only three grid cells were randomly selected for each compass direction (N,E,S,W) and the presence/absence of any prominent tree/shrub intercepting with the selected grid cells was tracked in each year. Field verifications were conducted to identify tree/shrub species and confirm the

presence/absence of the selected tree/shrub in the photograph. Any change occurring within each grid was noted and provided with a value.

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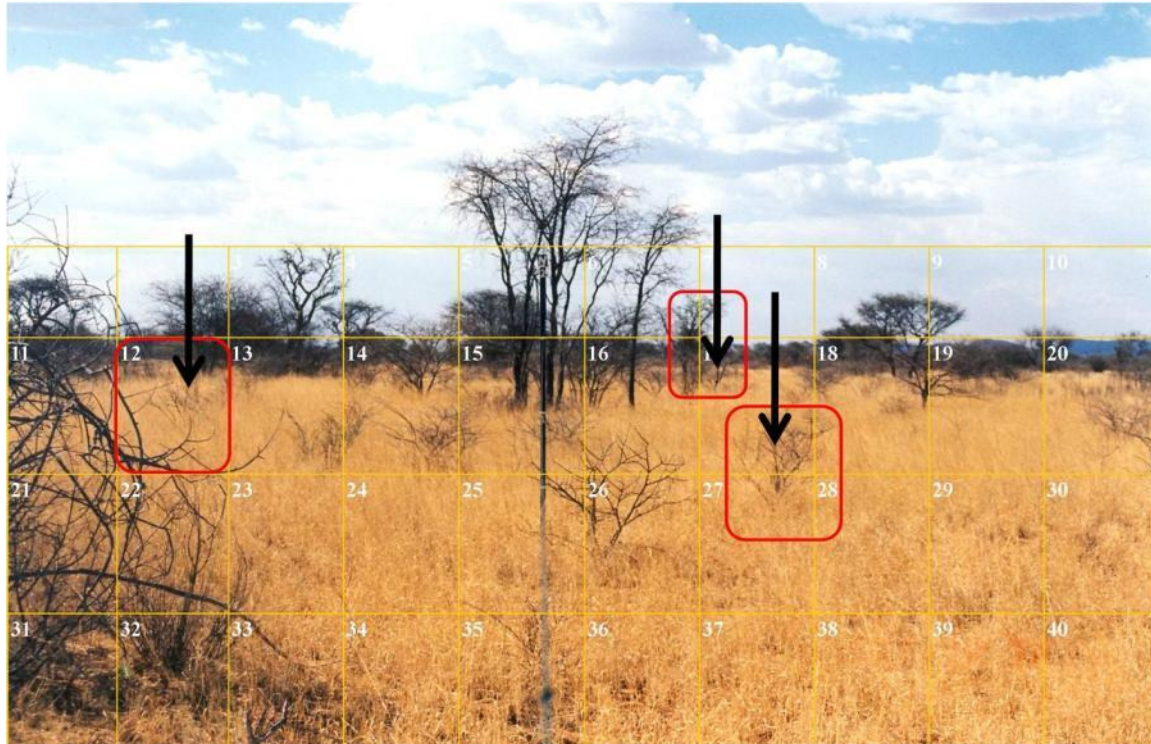


Figure 26. Fixed point photograph showing grid cells with randomised tree/shrub features.

Preliminary results showed that some of the selected tree/shrubs at the stations changed at an average rate of 6.46 ± 1.64 years, with some stations showing more turnover than others. About 10% of the tree/shrub components in the grid cells were not present since 1998. On the CCF big field, the turnover of individual tree/shrubs was 28% since 1998. Field verifications showed that *Acacia flekii* had the highest number of individuals replaced or emerging (Figure 27). The results obtained offered some promise about the usefulness of fixed point photography in detecting vegetation change.

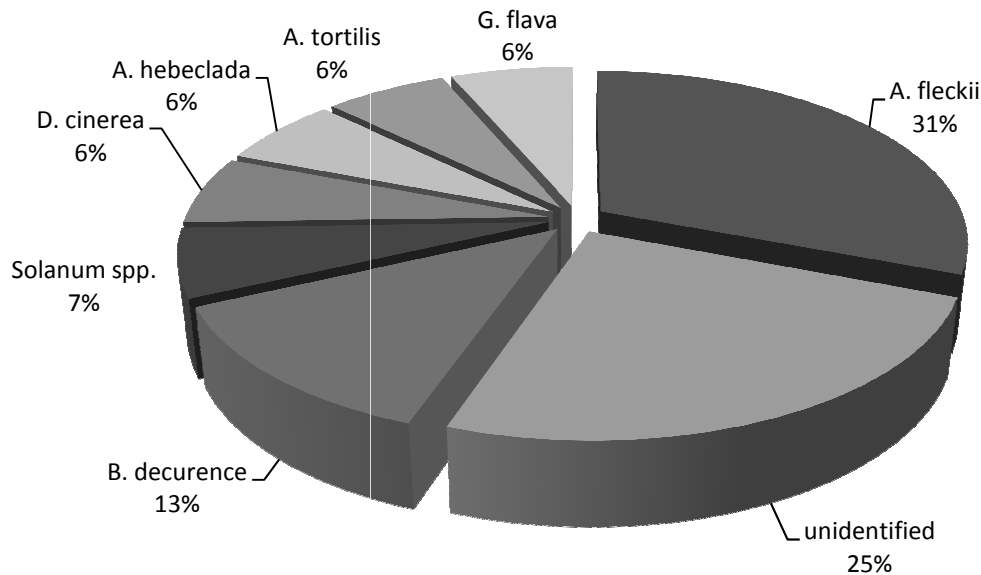


Figure 27. Tree/shrub species associated to changes at the fixed-point photography stations.

5. Bush Encroachment and 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.

Between August and October 2010, bird and camera trap surveys were conducted in areas previously thinned. The aim of the project was to evaluate the response of the local biodiversity towards bush thinning operations on a short-, medium- and long-term basis. CCF Bush PTY LTD has adopted an adaptive management framework and relies on feedback derived from the social, economic and ecological aspects of the restoration project. As such, significant negative indicators could signal altering or halting the process. Results obtained did not show large discrepancies between harvested and non-harvested sites, suggesting that the current methods and scale of harvesting should be encouraged to minimise any significant negative impacts.

The survey resulted into a camera-trapping effort of 360 trap nights at harvested and non-harvested sites in three locations, yielding a total of 560 photographs. A total of 842 animals from 28 species were captured including 10 predators, 11 game mammals, six game birds and one primate species. Three large predator species –leopard, cheetah and brown hyena (Figure 28) were captured on four occasions, with no recaptures. The cheetah was captured at one of the rhino reserve harvested plots and the leopard at one of the 2003/04 harvested plots. Brown hyenas were captured at one of the 2007 harvested plots and the rhino reserve non-harvested plots.



A. Leopard at HD5 plot



B. Brown hyena at HH1 plot

Figure 28. Camera trap captures of predators: (A) Leopard and (B) Brown hyena.

Mammal abundances in the rhino reserve study site were distributed unequally with most observations in the harvested site ($\chi^2 = 146.79$, $DF = 1$, $p = 0.01$), of which oryx and springbok contributed to 66.43% of the overall individuals detected (oryx = 40.1% and springbok = 26.34%). In contrast, harvested and non-harvested were similar in the 2007 plots and the non-harvested site had significantly more individuals than the harvested site in the 2003/04 plots ($\chi^2 = 5.93$, $DF = 1$, $p = 0.01$) (Figure 29).

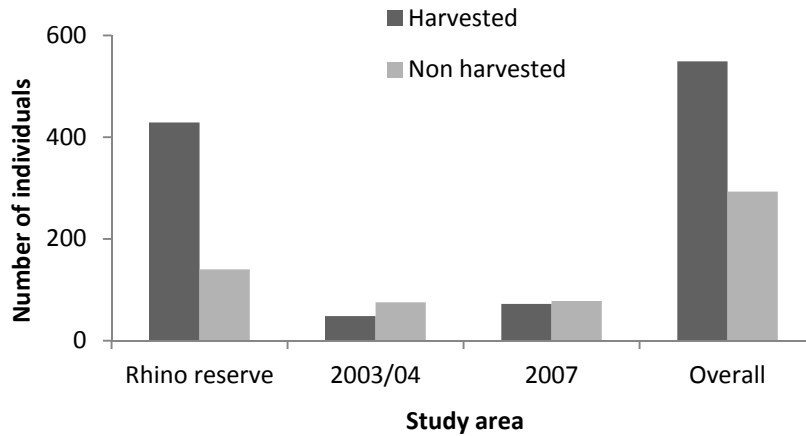


Figure 29. Number of game animals detected by camera traps in the study area.

During avian point-count surveys, 3,736 birds were identified from 80 different species. In the rhino reserve study site, the numbers of birds were distributed in similar proportions between the harvested and non-harvested sites (Figure 33). However, the non-harvested 2003/04 site had significantly more individuals than the harvested site ($\chi^2 = 20.59$, $DF = 1$, $p = 0.00$). In contrast, the proportion of individuals distributed in the 2007 study site were significantly higher in the harvested plots ($\chi^2 = 6.42$, $DF = 1$, $p = 0.01$). The overall numbers of birds encountered in all three sites were higher in the non-harvested plots, however, these were not statistically significant.

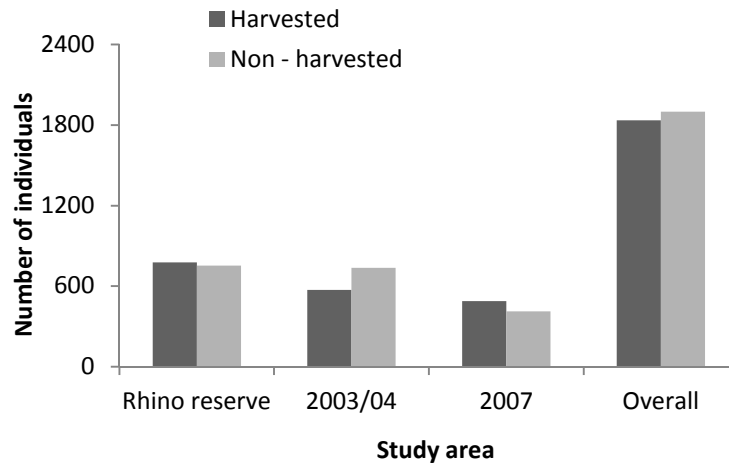


Figure 30. Number of birds detected during point-count surveys.

Overall, the harvested plots had marginally less species than the non-harvested plots (

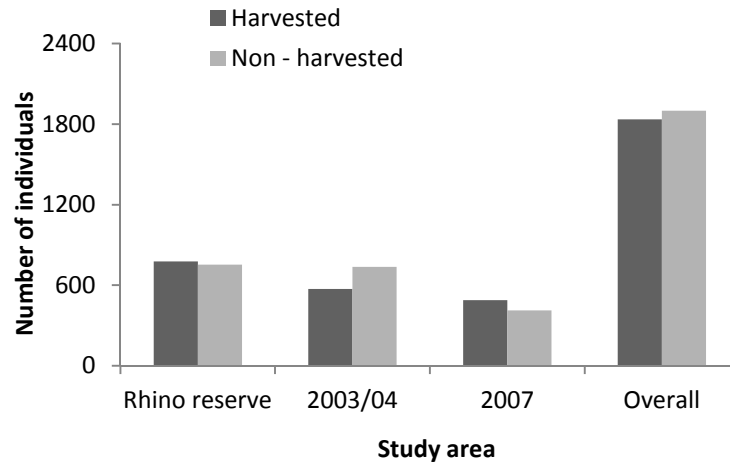


Figure 30). The majority of species ($75.02 \pm 2.45\%$) were common to both harvested and non-harvested sites. Comparisons between different study sites have shown that the rhino reserve study area had the highest number of species. At this site, the non-harvested plots had an additional single species more in comparison to the harvested plots. Species found in both harvested and non-harvested sites comprised $73.27 \pm 1.42\%$ of species seen (Figure 34). The four most common species included the scaly feathered finch, Marico flycatcher, black-chested Prinia and violet-eared waxbills.

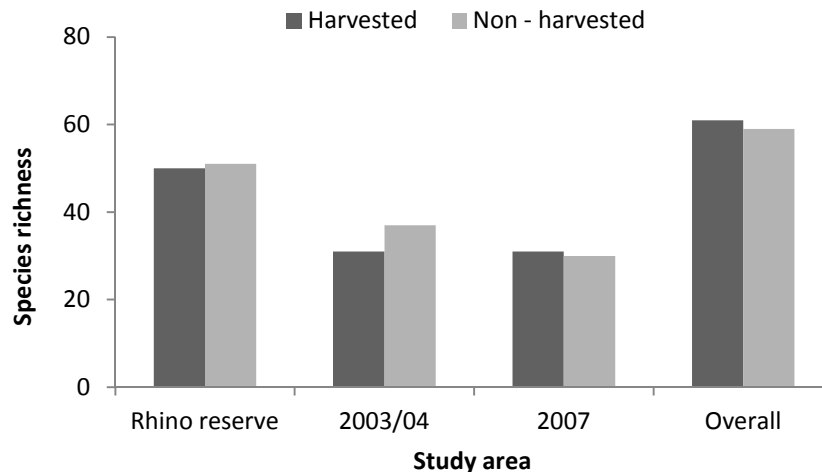


Figure 31. Number of avian species detected during point-count surveys.

In the 2003/04 site, the non-harvested plots had the highest species richness, a trend similar to the rhino reserve plots. The four most common species were similar to the rhino reserve site. Again, the majority of species ($71.14 \pm 12.30\%$) were common between harvested and non-harvested plots. In the 2007 study site the harvested plots had a single species more than the non-harvested plots. The percentage of common species was $85.27 \pm 2.73\%$, representing the highest figure amongst all study areas. In addition to the other common species as in the rhino reserve and the 2003 study area, two species mostly common at the 2007 were the Kalahari robin and the chestnut-vented titbabbler.

CCF will utilise the results obtained as a baseline for further ecological research and monitoring of harvested sites. From this survey we were able to identify common and elusive species, methodological

and logistical constraints, and will strive to improve on these aspects in subsequent surveys. The findings will guide CCF to expand the research to address more scientific questions with feedback loops for policy. Although birds and mammals were chosen as monitoring targets, it will be beneficial to include species with smaller home ranges such as reptiles and identify specific monitoring targets. We would like to make our findings available for peer review and publication in order to reach a wider audience and influence public policy.

6. Wild Game Hunted on CCF Property

CCF hunts several wild game species for consumptive purposes, including oryx, kudu, red hartebeest and warthog. Table 4 below displays the number of wild game species removed for consumptive use over a five-year period.

Table 4: Numbers of game utilised in 2011 compared with totals from previous years.

	2007	2008	2009	2010	2011
Oryx	33	45	45	82	80
Male	28	43	39	76	66
Female	5	2	6	6	15
Kudu	0	4	5	41	7
Male	0	4	5	14	1
Female	0	0	0	27	6
Hartebeest	0	5	12	35	22
Male	0	5	10	31	13
Female	0	0	2	4	9
Warthog	1	8	2	22	23
Male	1	8	2	22	12
Female	0	0	0	0	11
Total	34	62	64	180	132

7. Non-target Camera Trap Photos

At the beginning of this year, Intern Marjolein van Dieren of Van Hall Larenstein University in the Netherlands helped ecology staff investigate the use of non-target camera trapping photos to estimate game species richness and density. Her work was continued by Desiree Vermeulen also of Van Hall Larenstein University.

Remote camera traps have been used to investigate a wide diversity of research questions ranging from ecological to behavioural studies. However, their use in estimating the density of non-target species has been limited. CCF is testing this new approach which models the underlying process of contact between animals and cameras to investigate abundance indexes.

The model provides a factor that linearly scales trapping rate with density, depending on two key biological variables (average animal group size and day range) and two characteristics of the camera sensor (distance and angle within which it detects animals). Its primary assumptions are that cameras

are independent, the population is demographically and geographically closed during the sampling period, and the sampling follows a systematic approach.

Camera trap studies on rare carnivores often do not follow a random or systematic sampling approach. However, these stations can be considered random sampling sites for other wildlife species. This study's primary goal is to establish the monitoring value of these non-target datasets. Therefore, we tested, evaluated and refined a density estimator for non-target species devised by Rowcliffe (2008). Obtained estimates will be compared to those obtained from other count-based estimates (i.e., waterhole and strip counts).

Since a closed population is needed, five species of game (steenbok, oryx, red hartebeest, warthog and kudu) were selected. These species are known to live in the study area and are not expected to be migratory. This research is based on data from 2005-2009. We obtained results about the characteristics of the camera sensor.

The group sizes of the selected species were obtained from the annual waterhole counts on those farms where camera traps were also present or adjacent to. These numbers vary per year but the average group size is shown in Table 5.

Table 5: Average group size per game species.

Species	Average group size (no. individuals)
Steenbok	1.13
Oryx	2.41
Red Hartebeest	5.26
Warthog	2.57
Kudu	4.11

The data on the day ranges (the distance walked during the day) of these five species is currently being analysed. In January 2012 all the collected data for the Rowcliffe model will be put into this formula and the results analysed and discussed in the final article written for publication.

8. Bellebenno Giraffe Project

2010 saw a revamp of the Bellebenno Giraffe Project initiated in 2003, when all the giraffe in Bellebenno were identified and research into their feeding ecology carried out. The feeding ecology research was repeated again in 2004, 2005 and 2006.

In October and November 2010, individual giraffes were followed for 15-minute focal observations whilst feeding to establish which species of trees they were eating, how much time was spent eating per tree and the distance moved between trees. In addition to these focal observations, the locations of giraffes and the identity of individuals in groups were recorded to establish how they are using the Bellebenno camp as well as to define any social groups or social networks.

Results indicate that during the end of the dry season, the giraffe in Bellebenno have preference for certain species of trees (Figure 32). These were often the species existing at lower densities than other more available tree types. This does not appear to be related to the published tannin contents (a factor

often stated to determine giraffe feeding preferences). Implications for the vegetation in Bellebenno are unclear if preferential browsing of rarer species occurs, as this could alter the vegetation structure within the small fenced reserve.

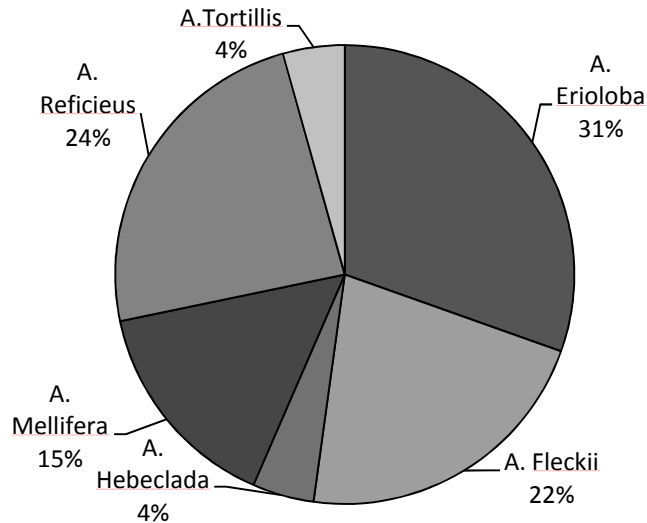


Figure 32: Species of plant eaten by giraffe in Bellebenno

The findings of this research, Feeding Ecology of Giraffe (*Giraffa camelopardalis*) in a Fenced Game Reserve in North-Central Namibia, were presented at the First ‘Wild’ Giraffe Indaba conference held in July 2011 in Namibia (see International Meetings section).

9. Bitter Bush Research

Polytechnic student, Gustaf Hanghome, carried out his internship project assessing the condition of bitter bush (*Blumea decurrens*) with the help of CCF ecology staff. Bitter bush is an invasive perennial pioneer shrub, which has increased in recent years across the CCF big field. As this shrub is considered unpalatable, it potentially reduced the grazing/browsing capacity of the big field for herbivores.

Fifty 200-metre transects were assessed across the CCF big field. The number of bitter bush shrubs intercepted, as well as their condition and whether or not they showed signs of micro- or macro-browsing, were recorded. Any other shrub species intercepted along transects were also recorded.

Figure 33 shows the mean density of bitter bush shrubs in comparison to other shrubs and seedling intercepted.

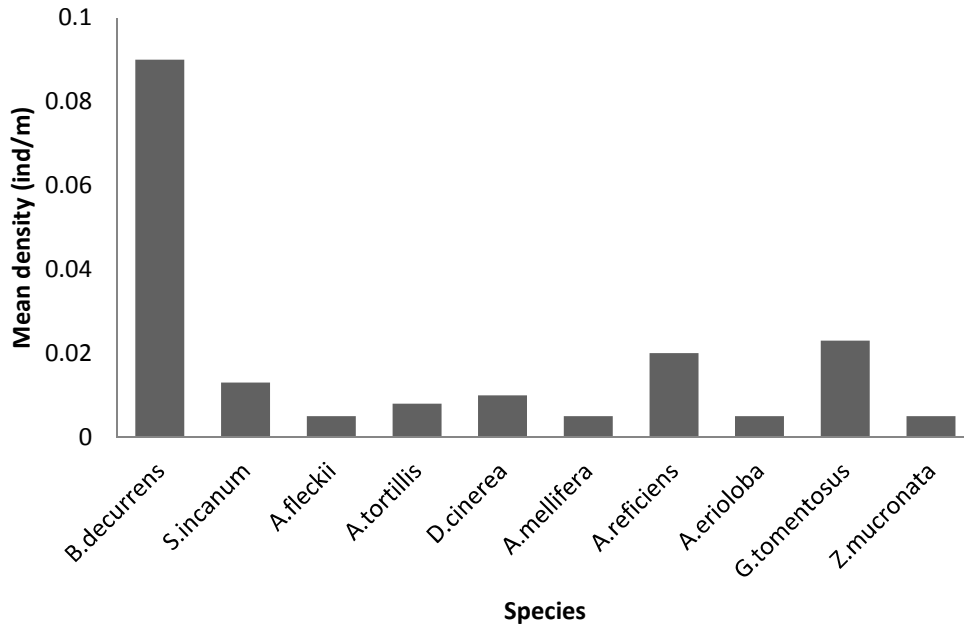


Figure 33. Mean density of bitter bush as well as other shrub and seedling species recorded on transects.

Of the all the bitter bush plants intercepted by the transects (n = 946), around a third were dead, while the rest were mainly in good or excellent condition (Figure 34). Of the bitter bush plants examined, all showed small signs of browsing by insects, but no signs of browsing by large herbivores were detected.

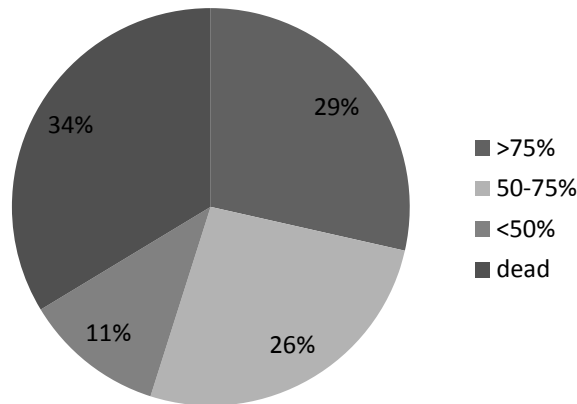


Figure 34. Condition of bitter bush shrubs intercepted along transect. Percentage indicates the percentage of the stems that were alive, >75% = excellent, 50-75% = good, <50% poor or dead.

This research indicates that the bitter bush does not contribute to forage for large herbivores and is currently very prevalent across CCF's big field. This baseline data can be used as a starting point for monitoring the encroachment of this species or to evaluate the effectiveness of any eradication efforts.

10. Swing Gates

CCF's swing gate project continued in the second half of 2011. Using data from the previous year, areas where new and reopened holes were frequently found were identified and in these places new swing gates were installed. In total 91 new gates were installed, and sections of damaged fence were repaired. The swing gates were closed and monitoring began on 1 November. November results show that the average number of daily holes made per gate varies throughout the month (Figure 35). Unlike our previous findings, the highest number of holes (on 22 November) does not appear to correlate with the full moon. It does, however, correlate with the start of rainy weather, most probably due to the ground being easier for animals to dig at this time.

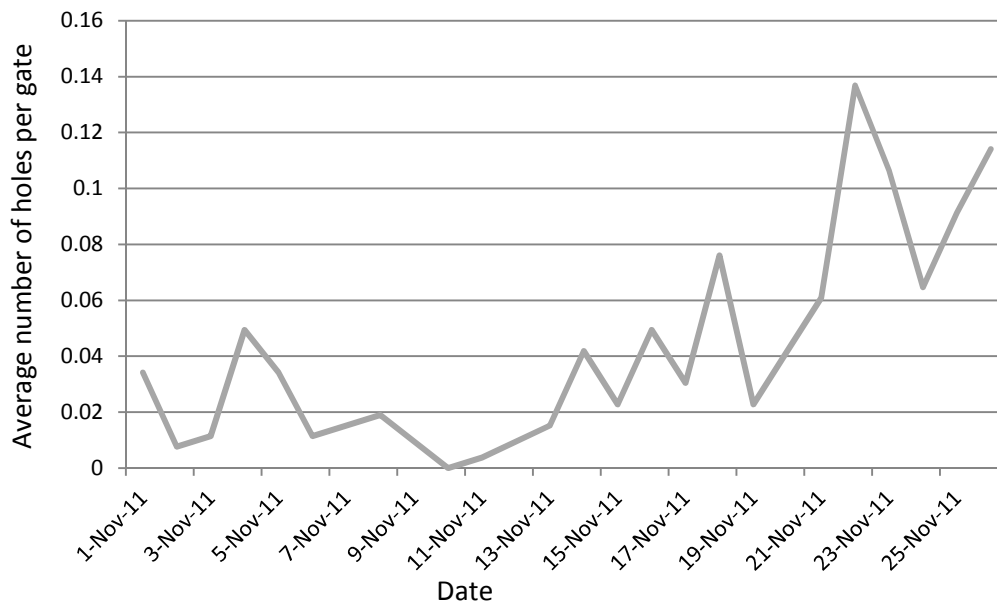


Figure 35 Average number of new or reopened holes made in November 2011

Most holes in between swing gates were not opened or reopened at all during November (Figure 36).

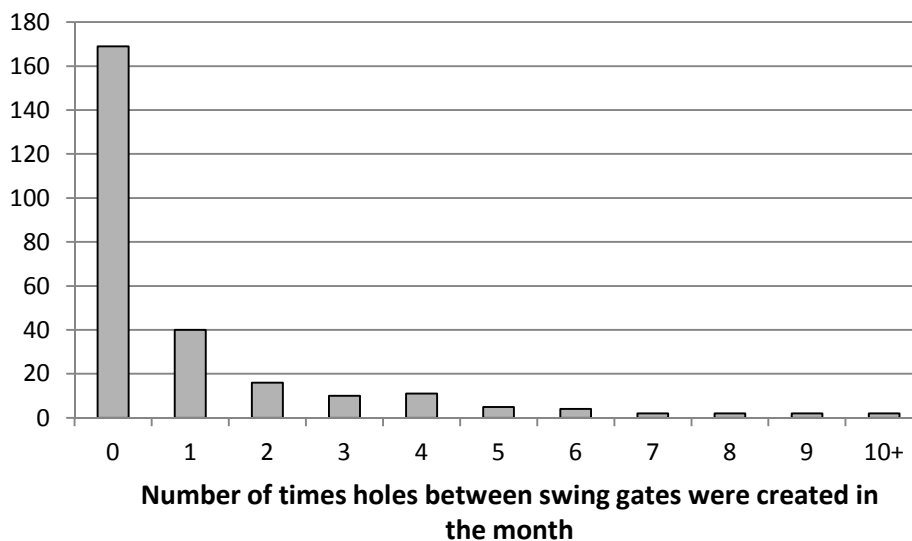


Figure 36 Frequency of times that holes between swing gates were opened throughout November 2011

We will continue to monitor new and reopened holes within the Bellebenno release site and will be undertaking further analyses on the substrate and vegetation types around the gates to determine whether this influences the amount of new holes made.

11. CCF Rhino Reserve

CCF is part of the Namibian Ministry of Environment and Tourism (MET)'s Black Rhino Custodian Programme. This programme fits perfectly with CCF's goals for its own land, which include the preservation of indigenous species and biodiversity, with a focus on endangered species such as the cheetah and the black rhinoceros.

Intensive monitoring continues in CCF's 14,640-ha rhino reserve. CCF's monitoring programmes provide ongoing protection for these critically endangered animals. Trail cameras are deployed across the reserve at key points that include waterholes, dung middens, game trails and roads (Figure 37). Their placement is determined by a number of factors, including spoor and scat sighted by the monitoring teams. Cameras are regularly moved, as the rhinos themselves migrate across the reserve. Individuals can be identified in photographs by a number of features, including ear notches, horn profiles, and hide scars. Waterhole counts, afternoon- and night-time monitoring patrols are also conducted, while a number of additional, hi-tech monitoring methods are under investigation.



Figure 37 Recent photo of rhino R1 taken from a remote camera trap placed next to a dam

As part of our on-going commitment to environmental education, all volunteers and a number of Babson House guests have spent time with our rhino patrols and are taught about the rhino's 50 million-year history and the current problems they face from the multi-million-dollar illegal horn trade.

12. Leopard project

In August 2011, year-long intern Suzanne Kenny joined CCF from Cardiff University in the UK. During her stay she will be assisting with our camera-trapping photo database. In addition to cheetahs, she has also catalogued leopard photos.

So far she has extracted more than 3,500 photos of leopards from our camera traps photos from 2010-2011. Figure 38 shows an example of a camera-trap photo taken of a resident leopard at CCF.



Figure 38 Male leopard caught on camera trap on CCF property

E. Scientific Publications and Papers Presented

CCF staff continues to collaborate and publish in peer-reviewed journals and present at scientific conferences. The following are completed Master's theses, papers that are accepted, submitted or are in preparation.

Master's Thesis

Potgieter, G.C.. The Effectiveness of Livestock Guarding Dogs for Livestock Production and Conservation in Namibia. For the degree of Masters in Science at the Nelson Mandela Metropolitan University. Port Elizabeth, South Africa.

Conference Proceedings

Terrell, K., Crosier, A.E., Wildt, D.E., O'Brien, S.J., David, V.A., Anthony, N.M., Crumples, N., Marker, L.L., Johnson, W.E. Individual Genetic Diversity does not Predict Ejaculate Quality in Captive- or Wild-Born Cheetahs (*Acinonyx jubatus*). The 2011 meeting of the Society for Conservation Biology.

Forsythe, K. & Marker, L, Feeding Ecology of Giraffe (*Giraffa camelopardalis*) in a Fenced Game Reserve in North-Central Namibia. 1st 'Wild' Giraffe Indaba.

Potgieter, G.C., Marker, L.L., Avenant, N.L. and Kerley, G.I.H. The Effectiveness of Livestock Guarding Dogs for Livestock Production and Conservation in Namibia. South African Wildlife Management Association (SAWMA) Annual Conference

Papers published

- Crosier, A.E., Comizzoli, P., Baker, T., Davidson, A., Munson, L., Howard, J. Marker, L.L. and Wildt, D. E. (2011) Increasing Age Influences Uterine Integrity, But Not Ovarian Function or Oocyte Quality, in the Cheetah (*Acinonyx jubatus*). Biology of Reproduction 85, 243–253
- Stein, A.B., Fuller, T. K., DeStefano, S., and Marker, L.L. (2011). Leopard population and home range estimates in north-central Namibia. African Journal of Ecology. pp 1 - 5
- Terrell, K.A., Wildt, D.E., Anthony, N.M., Bavister, B.D., Leibo, S.P., Penfold, L.M., Marker, L.L., and Crosier, A.E. (2011) Oxidative Phosphorylation Is Essential for Felid Sperm Function, but Is Substantially Lower in Cheetah (*Acinonyx jubatus*) Compared to Domestic Cat (*Felis catus*) Ejaculate. Biology of Reproduction 85, 000–000.
- Hong, L.Z., Li, J., Schmidt-Kuntzel, A., Warren, W.C., and Barsh G.S. Digital Gene Expression for Non-Model Organisms. Genome Res. gr.122135.111. Published in Advance August 15, 2011, doi:10.1101/gr.123117.111.
- Terrell, K.A., Wildt, D.E., Anthony, N.M., Bavister, B.D., Leibo, S.P., Penfold, L.M., Marker, L.L., and Crosier, A.E. Different Patterns of Metabolic Cryo-Damage in Domestic Cat (*Felis catus*) and Cheetah (*Acinonyx jubatus*) Spermatozoa. Cryobiology epub ahead of print Dec. 2011.

Papers submitted

- Guerier, A., Crawford, S., Schmidt-Küntzel, A., Bishop, J. and Stratford, K. Parentage analysis in a free-ranging population of southern white rhinoceros: Genetic diversity, pedigrees and management.
- Johnson, S., Marker, L., Mengersen, K., Gordon, C.H., Melzheimer, J., Schmidt-Küntzel, A., Nghikembua, M., Henghali, J., Fabiano E., Gaiseb, B., Wachter, B., Viability of the free-ranging cheetah population in Namibia - an Object Oriented Bayesian Network Approach.

Papers in preparation

- Marker, L., Forsythe, K., Dickman, A. Pilot Study of Conditioned Taste Aversion Trial on Wild-Caught Leopards.
- Fabiano, E.C., Nghikembua, M. T., Marker, L.L, A comparison of density estimates: Do non-target trial based camera trap datasets have any value?
- Fabiano, E.C., Nghikembua, M. T., Marker, L.L, Density estimates of cheetahs using camera-traps.
- Forsythe, K. and Marker L. Assessment of Swing Gates as a predator exclusion device.
- Kaelin, C. et al. Genetics of Tabby patterns in domestic cat and in the cheetah.
- Forsythe, K., Kreijtz, S., Schmidt-Kuentzel, A. and L. Marker. Diet of the free-ranging Namibian cheetah using prey hair from scat.
- Quirke, T., Forsythe, K., Ramsey, R. and Marker, L. Comparative behaviour of a four female cheetah coalition pre and post release into a large game camp in Namibia.
- Schmidt-Küntzel, A., Williams, J., Marker, L. A formula-based rearing method for cheetah cubs.
- Harris, J., Nghikembua, M., Tregenza, T., Marker, L. Interactions between bush encroachment and large carnivore habitat selection: a case study on GPS satellite collared cheetahs in northern Namibia.

Mény, M., Schmidt-Küntzel, A. and Marker, L. Diagnosis-based treatment of helminths in captive and wild cheetahs (*Acinonyx jubatus*).

Potgieter, G.C., Marker, L.L., Avenant, N.L., and Kerley, G.I.H. The Effective Use of Livestock Guarding Dogs by Namibian Farmers.

IV. CONSERVATION

Whether perceived or real, livestock loss to cheetahs is an economic and emotional issue as the farmers' livelihoods depend on the economic success of their livestock and wild game industries. While many Namibian farmers are very respectful of nature and tolerate a certain level of loss, some resort to lethal predator control rather than alleviating their problems in a non-lethal manner through appropriate livestock and predator management. By addressing the livestock-predator conflict through a conservation management strategy that benefits both humans and cheetahs, CCF is ensuring the long-term species' survival on Namibian farms and has raised greater awareness of better farm practices.

A. Livestock Guarding Dog Programme

1. Programme Overview

The Livestock Guarding Dog (LGD) programme at CCF continues to be one of the most successful conservation projects to assist farmers with predator conflict. As of December 2011 there were 146 dogs (71M, 75F) alive in the programme, of those, 105 (51M, 54F) are working dogs and 41 (20M, 21F) are retired or pets. Additionally, seven puppies (3M, 4F) are currently at CCF and will be placed as working dogs in early 2012.

Of the working dogs, 55 (25M, 30F) are on commercial farms, 14 (10M, 4F) are on communal farms, 24 (11M, 13F) are on emerging commercial farms and 9 (3M, 6F) are on resettled farms. One male dog is working in Kenya and two dogs are working in South Africa at Cheetah Outreach (1M, 1F).

The LGD 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, Gail Potgieter and Gebhardt Nikanor.

2. Breeding and Puppy Placements

A total of 15 puppies from three litters, including three born through artificial insemination (AI) last year, were placed during this period. Seven puppies born in early November will be ready for placement in mid-January 2012, while another litter is expected in late January 2012.

Penda (SB# 287), a half-breed Anatolian, was bred to our new Kangal male Firat (SB # 431) and gave birth to six healthy puppies (3M, 3F) on 3 August 2011. Hediye (SB # 382), a Kangal female, was bred for the first time to Amos (SB# 285) and gave birth to seven puppies (3M, 4F) on 15 August 2011; however, female puppy died of unknown causes. After conducting pre-approval farm visits, 12 farmers were selected to receive puppies from these two litters. Two communal farmers, two emerging commercial farmers, one resettled farmer and one commercial farmer received Penda's litter. Six commercial farmers received the puppies from Hediye's litter --these farmers had previously received dogs from CCF, but the dogs had reached retirement age. All farmers receiving puppies participated in CCF's mandatory one-day course, "puppy information day," where the farmers are trained on the correct

methods of raising a livestock guarding dog. The courses cover care and training of livestock guarding dogs as well as predator-friendly livestock management.

The three puppies produced by AI were placed as pets for future breeding. One female, Cappuccino (SB#407), was placed as a pet with the US Ambassador to Namibia in Windhoek. She had to be moved out of the CCF goat kraal because she had developed a skin condition that was most likely a result of being allergic to the kraal environment (or perhaps to the goats themselves). CCF plans to breed this young female in the near future. Another female, Marble (SB# 404), was also placed as a pet breeding female on a small holding outside Windhoek due to lack of space for keeping intact female breeding dogs at the CCF goat kraal. Tragically, Marble died on 8 November 2011 after being bitten by a black mamba. The last of the puppies from this litter, Pandora (SB#405), was placed at Cheetah Outreach in South Africa as part of their breeding programme and is currently doing very well.

Kangal female Hediye was scheduled to be bred with Kangal male Firat but unfortunately the breeding was not successful due to unwillingness from the sire and an apparent lack of experience from the female. Uschi (SB# 269), a purebred Anatolian, was bred to Amos and gave birth to eight puppies (3M, 5F) on 3 November 2011; unfortunately one female puppy died of unknown causes. The remaining seven puppies are growing strong under the care of the veterinary team and CCF's student interns and volunteers. The puppy information day is planned for mid-January 2012, when this litter will be placed with their new owners.

Finally, on 21 November 2011, CCF took custody of an intact female Kangal dog named Kiri (SB #453) from an organisation called Drenam (PTY) LTD in Karibib, Namibia. The owner was unable to house her whilst in heat due to lack of facilities on the farm and lack of a male dog to which she could be bred. Kiri was in heat when she arrived at CCF and was bred to Firat on 29 and 30 November. Her expected due date is 31 January, 2012. Half of her litter will belong to CCF and half to Drenam (PTY) LTD.

3. Follow-Up on Prior Placements and Health Survey

CCF staff visited 37 dogs during this period, including 13 puppies that had been born in 2010 and 12 born in August 2011.

Thirteen puppies born in August 2010 were visited in January and February 2011 as part of the standard dog visits to ensure that they are properly cared for and working correctly. One of the puppies from this litter (SB # 415, F) was killed by other dogs after she tried to keep them away from the livestock; the owner was devastated by the loss and reported the incident immediately. Another dog from the same litter (SB# 412) was not trained correctly by the people working with it and subsequently began biting livestock. This dog was transferred to Armas Shanika, CCF's shepherd, who has successfully retrained the dog to look after his own flock of goats. As Armas' previous working dog, Mondessa (SB# 249), died of bone cancer on 15 November 2011, this younger dog comes as a welcome replacement.

The 12 puppies from the two August 2011 litters were visited in November 2011, as they turned three months old. As part of standard procedure, the puppies were vaccinated against rabies and other canine diseases during these visits. Tragically, one of the puppies reacted negatively to the vaccines a few hours after it was vaccinated and died later in the day. Such a severe reaction to routine vaccinations is exceptionally rare and dog owners will be informed about the potential for negative side effects of vaccines in the future. The owner of this dog was understandably upset by the loss of his dog and will receive another puppy from CCF from the next litter.

Other than routine vaccinations, CCF provides de-worming tablets, veterinary supplies for minor injuries, topical anti-parasitic agents, and dog food for purchase at a discounted rate to the farmers. The medical supplies help ensure that the dogs' health is a priority. The dogs' working success has been correlated with good care.

Unfortunately, not all farmers provide the proper care. Therefore, the follow-up visits are critical and the removal of dogs that are not cared for is necessary. One of the working dogs (SB# 313) was confiscated in February 2011 due to a lack of care provided by the farmer; this dog was too malnourished to recover and died shortly after arriving at CCF. Another male working dog (SB# 370) was killed by baboons in November 2010; however, the owner did not report this to CCF and the death was discovered during a routine visit. The owners of both dogs have been red-listed and will therefore not receive dogs from CCF in the future.

4. Dog Health

Routine Health Treatments

The current CCF kraal dogs are males Shades (SB# 142); Amos (SB# 285); and Firat (SB# 431); and females Uschi (SB#269); Hediye (SB# 382); Aleya (SB# 424); and Feliz (SB# 430). Scat detection dogs Isha (SB# 347) and Finn are housed at Dr Laurie Marker's home. Breeding female Penda (SB# 287) stays at Boskop.

All of the dogs except Feliz received their annual vaccinations for rabies and DHPP (distemper, hepatitis, parainfluenza, parvovirus) on 13 July 2011. Feliz received her vaccinations on 7 November 2011. All the dogs receive Frontline treatment for tick and flea prevention every 4 to 6 weeks as indicated, and broad-spectrum de-worming every three months. On the 6 and 19 November all the kraal dogs were treated with Ivermectin for Sarcoptic mange (*Sarcoptes scabiei*).

During the heavy rainfall months of early 2011 the ticks became numerous and two of the dogs, Firat and Aleya, had wounds associated with tick bites. They both received minor surgical treatment and recovered well. On 9 August Amos was diagnosed with a benign, fluid-filled cyst on the back of his neck which does not require any medical or surgical treatment at this time. On 9 September Shades was diagnosed with a broken right front foot (fractured metacarpal bones 3 and 4) which has since healed fully. On 5 December Penda was attacked by a warthog and sustained a wound to her right shoulder which required surgical treatment.

Deaths

Two of the CCF dogs, Cazgir (SB # 414) and Timone (SB # 154) died on 30 March 2011 and 17 June 2011 respectively. The cause of death in both cases was cancer – Cazgir had developed tongue cancer (squamous cell carcinoma) and Timone, aged 10 years, had a cancerous tumour (chondrosarcoma) on the thoracic wall that invaded the chest cavity. Cazgir died from metastasis of her cancer just prior to starting treatment and Timone died during recovery from surgery to remove the tumour. Eight-year-old Mondessa (SB# 249), a CCF working dog, was euthanized on 15 November 2011 due to a tumour of the bone/cartilage of the right hock that was causing severe hind leg swelling, pain, and inability to walk. The tumour will be sent in for histopathological identification at Idexx S. Africa.

5. Squamous Cell Carcinoma (SCC) Research

For the lingual (tongue) squamous cell carcinoma (SCC) study, serum samples from affected and unaffected dogs were sent to the United States for nutritional analysis in order to determine whether dogs with tongue cancer may have signs of nutritional deficiencies. The hypothesis behind this is that nutritional deficiencies in certain trace elements may make dogs more susceptible to the high UV index present in Namibia. Results are expected in early 2012. This aspect of the tongue cancer research is supported by a Morris Animal Foundation Pilot study grant.

6. Student projects

Gail Potgieter's MSc study on the guarding dog programme will come to a conclusion at the end of 2011. Gail presented on some of the results of this study at a conference for the South African Wildlife Management Association in September 2011, and her MSc dissertation was officially submitted in December 2011. Two of the chapters will be submitted to peer-reviewed journals as separate scientific articles in 2012.

B. CCF Farm and Livestock Model

CCF's farm provides the opportunity to practice and experiment with optimum methods of livestock and non-lethal farm management practices, especially acting as a showcase model of success. CCF's cattle, goat and sheep herds continue to increase and selected herds have been used during various farmer training programmes. CCF also rents grazing land to three farmers for their cattle (500 head total).

During this period, CCF farm staff was active in fence repairs and basic farm maintenance. Work continues on fire breaks and road maintenance.

1. Cattle

Under the direction of CCF's Farms Manager Johan Britz and Assistant Farms Managers Bessie Simons and Engelhardt Awaseb, CCF actively manages a large cattle herd under model conditions. By December 2011, CCF had 424 cattle. Total cattle production for the year includes 21 calves born, none dead, 56 cattle sold, and two slaughtered for own consumption. Fortunately, no cattle were stolen from CCF property this year, which is a great improvement from the 21 that were stolen last year. CCF's Farm Manager Johan Britz won two awards this year: first place in the Otjiwarongo Agricultural Show for one slaughter oxen, and third place in the Otjiwarongo Weaner Auction Competition. We congratulate Johan for his dedicated care towards our cattle and for continued development in this area.

2. Small Stock

Goats and sheep are an essential part of CCF's LGD programme as the puppies must be raised amongst the goats and sheep so that they will form a close bond with the livestock. In addition, the small stock herd have been used for demonstrations during farmer-training programmes. CCF's small stock herder Armas Shanika, farm management staff and the animal health team carry out proper management to maintain the general health and welfare of the animals.

In addition to eight Anatolian/Kangal dogs and seven Anatolian puppies mentioned in the previous section, at the end of December 2011, the kraal has a total of 56 dairy goats, 62 Boer goats and 40

Damara sheep. The CCF staff is working on increasing the amount of shade and rain protection for the dairy goats, and has built a new milking stand so two people can milk at the same time to reduce the amount of time it takes to milk the dairy goats. New ways of managing CCF's animals are being considered. In the future CCF would like to lower the amount of animals in the kraal to increase the individual health of each animal. In consequence, CCF is in the process of selling some of its animals.

Boer Goats

The goat herd numbers stood at 123 at the beginning of January 2011 and 62 on 31 December 2011. The highest herd number recorded was in March, when the herd reached 189 goats following the kidding season. Out of 50 does that were mated from mid-August to the end of September 2010, 24 gave birth for a kidding rate of 48%. Seventeen gave birth to a single kid, seven gave birth to twins. There were no triplet births recorded for Boer goats during this time. Twenty-eight goats were bred again mid-February 2011 and gave birth between late August and early October. Nineteen goats gave birth, with a birthing rate of 50%. One birth was a single kid, fourteen does gave birth to twins and four to triplets. In total, 66 kids were born in 2011, with only seven losses: five due to premature birth, one due to a brain tumour a few days after birth, and one due to unknown causes. CCF controls the herd size by selling or slaughtering unproductive animals such as castrated males and old or inferior does that need to be replaced. In 2011, 34 goats died, including 17 kids. The majority of kids died due to drought, while some died from poisonous-plant toxicity, disease or internal and external parasites. A minority of goats died of unknown causes. A total of 120 goats were sold in 2011.

Dairy Goats

The dairy goat herd increased from 36 on 1 January 2011 to 56 on 31 December. The dairy goat does are managed in such a way that when half of them are being bred, the other half are lactating to keep a continuous production of milk. Twenty-seven does were bred at different times of the year: six were bred between March and April 2011, with 11 kids born and one died. Ten does were bred between May and July, with 13 kids were born and two died. Six does were bred between August and September and five between September and October, but no kids have been born yet. A total of four dairy goats died in 2011.

Damara Sheep

The Damara sheep herd increased from 106 in January 2011 to 162 in June 2011, and then reduced to 40 as of 31 December 2011. Forty-two sheep were mated from mid-August to late September 2010 and finished lambing by March 2011 with a conception rate of 93%. Out of the 42 ewes mated, 39 gave birth to a total of 39 lambs, and only three did not conceive, As with the Boer goats, the herd size of the Damara sheep is controlled by replacing old ewes and wethers through selling and culling. During 2011, 121 sheep were sold and one died due to disease.

3. Small Stock Vaccinations and De-worming

All of CCF's small stock is vaccinated for the control and prevention of various diseases such enterotoxemia and pulpy kidney disease (*Clostridium perfringens Type D*) and tetanus (*Clostridium tetani*), *Pasteurella haemolytica* respiratory infection ("shipping fever"); *Brucella ovis* and *Brucella melitensis*, a bacterial infection of the reproductive tract; poxvirus causing contagious ecthyma;

Chlamydophila psittici, an organism that causes early and late term abortions; Rift Valley Fever virus; rabies virus which causes fatal encephalitis.

In December 2011, despite having vaccinated all of our young animals for Orf, CCF's small stock herd experienced an outbreak of the disease among young dairy and Boer goats. This may be due to a heavy viral load in the environment (the virus is very resistant to destruction in the environment). The outbreak was quickly contained by re-vaccination and the cases that did occur were generally mild and responded to daily treatment of scrubbing the lesions with betadine solution and applying antibacterial cream.

In addition, small stock is treated for internal and external parasites on a quarterly basis in January, April, July, and October of each year.

4. Hay Production

About 3,500 bales of hay were produced in 2011, which is about a half of CCF's growing needs for horses, goats, dairy goats, sheep and cattle. Hay production will restart in 2012.

V. EDUCATION

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 in general 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.

CCF continues to host school groups of all ages at Lightfoot Camp and visiting schools as part of our outreach program. CCF also continues to host international courses and university students and interns.

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 to develop conservation policies and programmes to sustain cheetah populations and to work 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 20 years by CCF in Namibia. There was a clear need to share this information and provide 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, from 2009 to 2011. The courses bring together conservation managers, scientists and community extension officers from cheetah range countries around the world to promote a unified and systematic approach to cheetah conservation including research, monitoring and wildlife-conflict mitigation measures.

In its third and last year, CCF's international training courses included two on Integrated Livestock, Wildlife and Predator Management and two on Conservation Biology for a total of 92 participants.

1. Integrated Livestock, Wildlife and Predator Management

From 13 to 26 February 2011, CCF hosted an Integrated Livestock, Wildlife and Predator Management Course for 23 participants from Botswana, Zambia, Zimbabwe, Kenya, Benin, Brazil and Namibia. The participants were selected as leaders in their communities that are working in the field of human-wildlife conflict mitigation. As many of the participants came from Namibia, this gave them the chance to teach their international colleagues about the value of communal conservancies and also learn about conservation challenges in other countries.

In November 2011 CCF held its sixth international training course on Integrated Livestock, Wildlife and Predator Management. A total of 25 participants from Namibia, Botswana, Ethiopia, Kazakhstan, South Africa, Zambia and Zimbabwe spent two weeks immersed in lectures and hands-on activities related to integrated management systems and mitigation techniques for dealing with human-wildlife conflict situations. A training field trip was conducted at a local conservancy where course participants learned about questionnaire techniques and community-based needs assessments around livestock and predator management.

The main themes of the courses were livestock management, talking to communities about the value of wildlife and practical methods to reduce livestock losses to predators. Along with a host of lecturing CCF staff, guest lecturers were invited to share their expertise in fields such as livestock health, rangeland management and leadership skills. The participants were also afforded an opportunity to talk to a Namibian farmer that is participating in the CCF livestock guarding dog programme. This well-rounded programme provided the participants with knowledge on the multiple facets of farmer-livestock conflict to share with their communities when they returned home.

Overall, the 2011 Integrated Courses were a success, judging from feedback received. In particular, participants gained knowledge of correctly identifying predator depredation from livestock kills and providing farmers with ways to protect their livestock from predators. Participants enjoyed themselves immensely and returned home with a great deal of resources to support their work and share with others.

2. Conservation Biology

The fifth and sixth international courses in Cheetah Conservation Biology were held from 6 March until 2 April and 3 June until 1 July. These two courses included 44 international wildlife professionals from five continents and 17 countries. Participants learned about CCF's programmes and conservation initiatives within Namibia. The training received by course participants—who came from countries including Iran, Zambia, Botswana, Zimbabwe, Mozambique, Ethiopia, Niger, Namibia, Brazil, India, Uzbekistan, United Kingdom, Southern Sudan, Australia, South Africa, Uganda and Kenya—focused on capacity building to conserve cheetahs and their ecosystems.

Lectures and exercises included theory-based talks and field practice on integrated and holistic rangeland 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 CCF staff and lecturers from the

Polytechnic of Namibia, World Wildlife Fund, the Otjiwarongo Veterinary Clinic, AGRA, and other businesses and organisations. For many of the students, the course provided their first introduction to the course topics and techniques.

Field Practice

To put theory into practice, participants of the March course visited the Ehirovipuka and Grootberg Conservancies near Etosha National Park. During the visits, participants surveyed local farmers on human-wildlife conflict issues, conducted predator identification workshops, and assessed the region for sustainable land use. The course concluded with a ceremony and dinner at the CCF Centre, which was attended by several ambassadors from participants' home countries.

Within the June course, a rapid survey was conducted in the Sesfontein Conservancy, in the Kunene region, the northern part of Namibia. The survey teams were made up of course participants as well as CCF staff and interns. A total of 19 respondents were interviewed.

Prior to the main survey, a predator identification sheet was distributed amongst the respondents. In the Sesfontein Conservancy, ten residents participated in the predator identification survey and only one was able to identify all predator species. Three respondents could identify 70% predators; two respondents could identify 50% predators; and two could identify 40% predators. The lion was the only species which was identified correctly by all respondents. Incorrect species identification was high for the brown and spotted hyena since these two species were confused with one another. Consistent misidentifications were also observed in few cases especially with the a) spotted hyena being mistaken for a brown hyena, b) the cheetah as a leopard and c) the wild dog as a jackal (Figure 39).

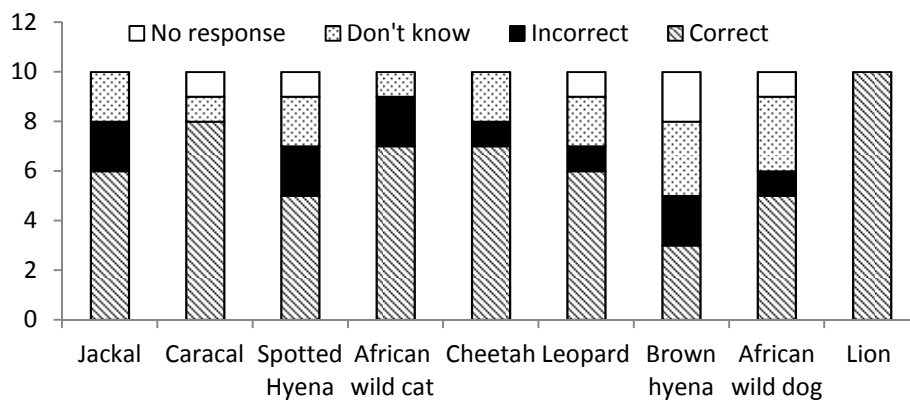


Figure 39: Number of correctly identified responses per predator species in Sesfontein Conservancy

Wildlife occurrence was confirmed by all respondents, with different perspectives regarding the probability of encounters. Of the 18 game species scored, respondents felt that most of the wildlife occurred on a very-common to common basis. Rhinos and elephant were stated to be rare by some respondents, as were the caracal and the brown and spotted hyena.

The ranking of the most problematic predator was according to the following order: firstly was the cheetah, secondly the jackal and thirdly the leopard. Predators least ranked included the African wild cat, caracal and lion. All of the respondents confirmed livestock losses due to predators within the last 12 months. Cattle losses occurred mainly due to lions and hyenas, whereas goat losses were caused mainly by cheetah, leopard and jackal.

There was a high incidence of predation, although the majority of the respondents used a herder or a dog to protect their livestock --goat and sheep herders were the most common defence against livestock depredation, whereas livestock guarding dogs were least common. Their ineffectiveness in preventing livestock losses is most likely due to herders' lack of training and the use of small dogs.

The highest number of predation cases occurred while the livestock were grazing in the exposed bush. The second highest incident occurred at the kraal and near water, whereas the least predation occurred near the house. Livestock losses occurred during throughout the year, with the highest during September-December (hot and dry season) and May-August (cold and dry season). Several management actions were taken when livestock losses occurred, such as reporting cases to the conservancy, gin trapping and shooting. Only a few cases were directly reported to the Ministry of Environment and Tourism. The majority of the participants stated that predators have no value due to livestock losses and threats to humans. Additionally, the majority of the participants did not think deem beneficial to be part of the conservancy. The results of this report signify that education may play a key part in improving behaviour and tolerance towards predators.

Combined Conservancy Report

Intern Teresia Robitschko of Van Hall Larenstein University is working on combing the rapid surveys from all the conservancy visits made by the International Conservation Biology Courses over the last few years. This report will focus on comparing results of human wildlife conflict surveys within the different communal conservancies visited. Questions to local farmers included those about livestock losses, farming techniques and live protection methods. Questionnaires also ask about predator abundance and wildlife in the area as well as attitudes towards conservancies. These results will provide a greater insight into the state of human-wildlife conflict in these areas.

B. Local Training

1. Conservancy Game Guards' Training

From 2 to 6 March 2011, CCF hosted a training course for 25 conservancy game guards from 14 different conservancies. The participants came from the far north-west (Marienfluss Conservancy), north-east (several conservancies from the Caprivi Strip) and east-central (Eiseb Conservancy) regions of Namibia. This mix allowed the game guards to learn from each others' experiences in their different areas.

The main topics covered in the course were causes of human-wildlife conflict, how to train farmers, the use of guarding dogs, identification of livestock kills, livestock management, wildlife monitoring and game ranging. The participants were also tested on their general knowledge of carnivore species and were provided with information on the general behaviour of those species commonly involved in conflict. The results of the tests revealed a substantial difference in the knowledge of the participants

from different regions before the course. After the course, all of the participants had gained a better understanding of predators and methods that can be used to resolve human-wildlife conflict.

Overall, the course was a success and many of the game guards expressed the need for further training courses such as this one to be conducted in their conservancies.

2. Farmers' Training

During field trips for the international courses, six farming communities comprising 70 people from two conservancies were visited and engaged in an interactive learning exercise with CCF staff, based on the CCF model for farmers' training courses imparted at the CCF Centre. In addition, farmers' training was imparted to 54 farmers during farmers' meetings.

The March international course group visited the #Khoadi //Hôas Conservancy and the June course participants visited the Sesfontein Conservancy. During these visits, the local people are given a quiz on predator identification and livestock kill identification. In the #Khoadi //Hôas Conservancy, 40 people from Persianer, Condor and Kuyper post were provided with this training. In the Sesfontein Conservancy, approximately 30 people from the Tsaurob/Okamboora, Ozondorohungu and Ovikorojonzongava settlements were trained. After and during the training exercises, the importance of predators and the use of livestock protection methods such as guarding dogs are emphasised.

On 4 June, CCF was invited to attend the Duineveld Farmers' Association meeting to talk about predators and livestock management to reduce human-wildlife conflict. As this Association is within the Sorris Sorris Conservancy in the Kunene region, all of the attending farmers were also members of the conservancy. The meeting was attended by 29 men and women that listened attentively and engaged in discussions regarding the role of predators in the environment. During this meeting, the farmers expressed a need for more training courses of a similar nature in their area. CCF is looking to collaborate with other NGOs involved in working with conservancies to bring more of this training to the people in this region.

CCF was invited by the Omkhaibasen Farmers' Co-operative (OKFC) to give a training session to their members on 26 August. Gail Potgieter attended this farmers' meeting and provided training to 25 farmers that came to the information day. The farmers were provided with information on predator identification, predator behaviour and the predator's role in the ecosystem. Furthermore, they were taught how to identify which predators may cause livestock losses and how they can manage their livestock in order to reduce their losses to predators.

This successful farmers' day was organised by the chairman of the farmers' co-operative – Mr. Isak #Ûuseb. At Mr. #Ûuseb's request, CCF has provided two livestock guarding dogs to protect the livestock at the co-operative. For his tireless work to uplift his fellow farmers and the excellent care he has provided the two dogs, Mr. #Ûuseb was named as CCF Farmer of the Year for 2011 at the annual CCF gala event (see Namibia section).

Early this year, intern Jonas Stouten from Van Hall Larenstien University in the Netherlands began a phone survey to examine how farmers who have attended CCF's Integrated Livestock and Predator Management Courses in the past are now faring and about their attitudes towards predators and their farming techniques. This survey, which will allow us to determine how effective these courses are in the long term at reducing human-predator conflict, has been continued by intern Teresia Robitschko of Van

Hall Larenstein University in the second half of the year. So far, 29% of participants have been surveyed and results are expected during the first half of 2012.

C. Future Conservationists of Africa

1. Primary through High School

Between January and December 2011, the CCF Education team reached nearly 22,000 African children and youth through school outreach and Centre-based programmes.

School Outreach

Eighty-seven schools were visited during this period. Over 21,000 children in 87 schools learned about cheetah behaviour, ecology, conservation, and how people can help save the cheetah during approximately 45-minute presentations by the CCF staff.

In February, the team visited six schools in Otjiwarongo reaching 946 children. In March, the CCF Education team conducted outreach at seven schools in Rehoboth reaching 1,776 children in grades 4-10. The team also visited 15 schools in the Erongo region reaching 1,875 children in grades 5-7. Many of the schools in this region are in very remote, rural areas and thus were grateful to CCF for making an effort to reach them since few others do, with the result that sometimes rural learners are behind when it comes to basic general knowledge.

In June 2011, the team visited 31 schools, including 24 in Windhoek, reaching 10,730 children and 55 teachers. In July the outreach program visited fifteen schools in Windhoek, Gobabis and Okakarara; 3,037 children in total attended. CCF visited another eleven schools from Walvisbay and Swakopmund and a total of 3,426 children attended. Finally, in September outreach visited to two schools from Grootfontein and a total of 151 children attended. Feedback from teachers was very positive, particularly due to the children's active participation during the lectures.

All the presentations were well-received. It was particularly good to hear to hear the questions posed by the children. "Is it necessary to save predators? Are they not dangerous?" "Can't we wait for nature to take its course?" "We are only children, what has this got to do with us?" Such questions give the outreach team the opportunity to explain to the children that each and every one of them counts in our fight for the survival of predators; that they will not stay children for ever; and that nature has always been taking its course in restoring itself, but that humans are demanding too much of nature and not giving it fast enough time to recover.

In addition to school visits, in March and May, Dr. Laurie Peters, a CCF volunteer and artist from Sacramento, California, brought together children's art from two continents to raise awareness of the cheetah. Over 100 students from seven Otjiwarongo schools participated in this event organised and hosted by CCF in cooperation with the Otjiwarongo Art Centre and the Bivalley Lions Club of Sacramento, California. Using media donated by CCF friends in the US, the students in Otjiwarongo created cheetah paintings that were displayed at the Art Centre. Their work was then taken to the Solomon Dubnick Gallery in Sacramento, where it was displayed alongside art work by three groups of local school children. Proceedings from the sale of the original art will be donated to CCF, and

importantly, the works will benefit cheetahs by sharing the children's concerns that the cheetah will exist in the wild for future generations.

Centre-based Programmes

Organised education programmes at CCF involved 24 groups (859 children and youths), accompanied by 70 teachers, parents or volunteers, and included a group from Bundi-Herzlia High School in South Africa. All but one of these groups stayed at CCF's Lightfoot Camp. Depending on the length of stay and group focus, programmes include activities such as cheetah run, museum tour, guarding dog and goat kraal talks, predator kill identification exercises, 'preyground' activities and game drives.

CCF's Centre-based programmes included two weeklong 'Jubatus Kids' holiday camps, sponsored by the First National Bank, which attracted a total of 52 children staying at CCF's Lightfoot camp. The programme included educational activities such as bird identification, track identification, basic astronomy, museum tours, as well as 'fun' activities such as yoga, craft-making and video evenings. Twenty-four children, aged 12-18, attended the first camp held in April, travelling from areas as varied as Otjiwarongo, Swakopmund, Windhoek and Ondavigwa. The second camp, held during the first week of May, hosted 28 children aged 10-18 years who came mostly from Otjiwarongo and Rundu. These were the first holiday camps organised by CCF and feedback from parents and guardians was very positive.

In early April, CCF hosted 25 cub scouts from Otjiwarongo and Windhoek. The three-day programme focused on CCF's research and interactions between humans, wildlife, and livestock, as well as strategies for preventing conflict with predators. CCF's educator Patricia Munene led an art project where the children wrote a letter to the extinct cheetah begging the species to return, even giving the cheetah gifts to remember its life on earth. Many of the children drew pictures for the cheetah and brought items from the cheetahs' natural habitat to add to their letters. After the children were finished they presented their letters and then sang a song about cheetahs written by one of CCF's international course participants from Zambia.

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 organisations or with the Ministry of the Environment.

During this period CCF fostered four students from the Polytechnic of Namibia:

- Erkki Moombola, an agriculture student, completed a project on the milk production of our dairy goats in relation to diet.
- Gustaf Hanghome, a conservation student, completed a project looking at the distribution and condition of the invasive bitter bush in CCF's big field.
- Mariandekua Muzuma, a final-year agriculture, looked at the profitability of the CCF goat herd.

- Kenneth Kahungi, a final-year Nature Conservation student, conducted a preliminary analysis on fixed point photography.

This year CCF also took on a BSc. student from the University of Namibia, Kornelia Ndapewa lipinge. Kornelia completed her six-week field attachment and helped with ecology data entry and analysis, in addition to helping with CCFs recycling project.

Finally, CCF organised educational programmes for two groups from University of Namibia (31 students and 8 adults) and one from Polytechnic of Namibia (22 students and 5 adults) that stayed at Camp Lightfoot in September and October.

D. Community Outreach

CCF continued to visit farmers' associations as part of its outreach and education programme. Outreach and education are essential parts of CCF's work to increase the understanding of cheetahs and their role in the ecosystem, and create positive attitudes towards predators on farmlands. During these interactions, the CCF staff form important relationships with farmers from different regions in Namibia.

Outreach to farmers from all backgrounds was conducted at the Agricultural Shows in Otjiwarongo, Outjo, Grootfontein, Gobabis and Windhoek during September 2011. Farmers, schoolchildren, teachers and the general public attend these shows, thus providing CCF with the opportunity to engage with these diverse groups. The CCF stand at these shows is designed to be visually attractive and educational, with key staff members present at each show to provide information and advice to farmers and other interested members of the public.

Materials such as the books "Cheetah Survival on Namibian Farmlands" and "Integrated Livestock and Predator Management" are provided as free handouts to farmers, while school teachers are provided with free "Teachers' Resource Guides". The educational material is accompanied by a kill identification demonstration using a model goat and the kill identification page handout. This assists the farmers to identify the predator that is causing their livestock losses and adapt their livestock management accordingly.

Trophy hunting and game farming is a growing industry in Namibia and therefore has a growing influence on the conservation of predators in the country. Thus, engaging with the hunting community with regards to conducting predator research to set hunting quotas is an important part of CCF's conservation objectives. On 17 May 2011, CCF attended a Namibian Professional Hunters' Association (NAPHA) meeting in Otjiwarongo. During the meeting, Gail Potgieter met the new president for NAPHA and reinforced the good relationship between the NAPHA executive committee and CCF.

E. CCF Staff Education

Research Assistant Ezekiel Fabiano continued with his PhD studies that started in March 2009 with a scholarship from the Wildlife Conservation Network and Dr. Eduardo Eizirik at Pontificia Universidade Catolica do Rio Grande do Sul, Brazil. In December, Fabiano passed his qualifying exams and is expected to graduate at the end of 2012.

Master's 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 focuses specifically on CCF's LGD programme. Gail submitted her thesis in December.

Education Officer Gabriel Angala is studying Environmental Economics through the Institute of Bankers.

F. Other Collaboration with Educational Institutions

Over 100 students and teachers from international high school and universities stayed at Camp Lightfoot or other CCF facilities this year to participated in educative programmes including cheetah runs, tours of the centre, and lectures on human wildlife conflict. In addition to North Carolina State University, Rhodes University and the Mesa Community College at Red Mountain, the Miami University of Ohio's Earth Expeditions group returned to CCF in July in their fifth visit. The group of 22 teachers participated in CCF's 17th Annual Waterberg Conservancy Waterhole Count.

Dartmouth College (US) visited CCF for the sixth time as part of their Africa Foreign Study Program (AFSP). Among other topics, students examined community-based programs for economic development and environmental protection, including the relationship and conflicts that exist between human development and conservation. Students were introduced to the cheetah and the genetic, educational and ecological work done at CCF; witnessed a scat-finding demonstration by CCF's scat-detection dogs; and learned about CCF's LGD Programme and the dogs' role in keeping predators away from goats and sheep.

In November the International School returned to CCF and stayed the weekend at Camp Lightfoot, they had an interesting itinerary with a number of staff members giving educational talks, and carrying out maintenance in the centre Cheetah Pens.

Students from the Philadelphia Zoo have continued to help with CCF's ecological research remotely from the US, thus providing much-needed support as the amount of data entry continues to grow. They have been assisting with data entry and logging camera trap photos that were sent over to them early this year and then sent back to CCF.

G. Volunteers and Interns

Volunteers are the backbone of CCF and vital in daily operations. CCF has worked with Earthwatch since 1996 welcoming monthly volunteer teams of up to 4-6 people each. During 2011, CCF hosted ten Earthwatch teams totalling 31 volunteers.

In addition to Earthwatch, a further 58 volunteers visited CCF. Among these were three zookeepers from the UK, US and Australia, 28 international working-guest volunteers and 27 national and international student interns training in veterinary, wildlife biology, conservation biology, or animal husbandry from partner university programs including the IE3 Global Internships Oregon University System in the USA, and the Wildlife Management in-/ ex-situ Dept. Animal Management from Van Hall Larenstein in the Netherlands. In addition, several interns came from Germany, France, Italy, the UK and the US. CCF capitalises on professional specialities and interests of all volunteers, which adds to the volunteer experience.

H. 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 Cheetah Studbook**

The 2009 International Cheetah Studbook was finalised and printed in early 2011. The captive cheetah population on 31 December 2009 was 1515 (788.721.6) animals in 251 facilities in 42 countries. The captive cheetah population lives in eight geographical regions (Figure 40).

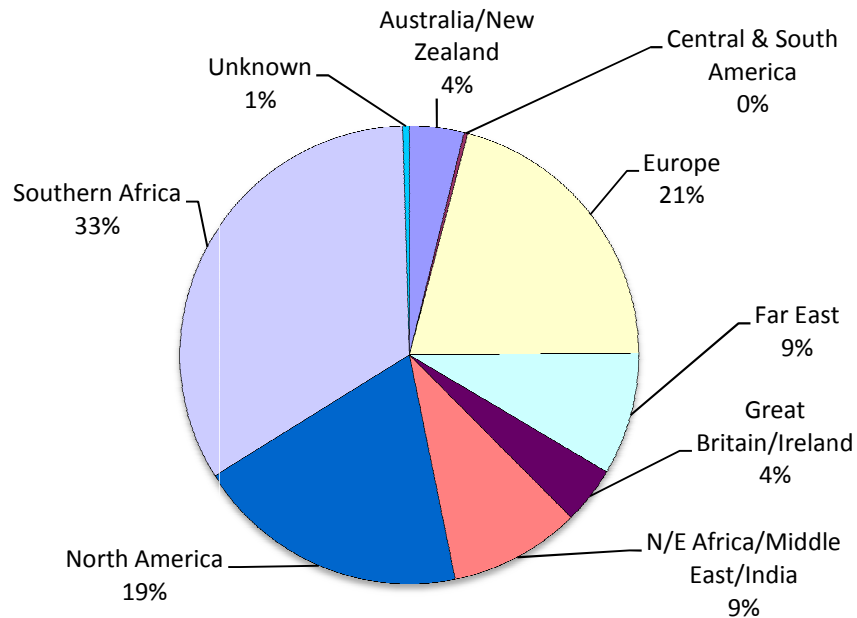


Figure 40. 2009 Captive Cheetah Population by Region, 1515 (788.721.6) Animals

From 1 January 2009 to 31 December 2009, 348 (176.161.11) new animals were registered. Of the new additions, 60 (34.26) animals were wild caught and 160 (81.68.11) cubs were born in 48 litters in 23 facilities in 13 countries. These births represent an increase in productivity from 2008 when 121 cubs were born. Total cub deaths at less than six months of age were 35 (14.14.7), which represent a 22% cub mortality --an increase from the total 2008 cub mortality, i.e. 20% (24 cubs). On a facility basis, of the 249 facilities that held cheetah in 2009, 23 had reproductive success. At the end of 2009 there were 255 (117.138) proven breeders alive in the captive population. During 2009, only 77 (37.40) animals, i.e., 5.1% of the captive population, successfully bred, and 17% {13 (9.4)} of these were wild-caught animals. Deaths reported in 2009 totalled 119, including cub deaths.

The 2010 International Cheetah Studbook is close to being finished. As of now the number of proven breeders is being calculated and many breeder number corrections are being made for different facilities. This is being done so that we can be up to date on which facilities have breeding cheetahs, how many they have, as well as how many breeding cheetahs they have had in previous years. We are also calculating the number of litters and cubs each proven breeder has had. Once the 2010 Studbook is

complete, the end of year questionnaires will be sent to each facility that cooperates with the Studbook program to find out their current amount of cheetahs as well as deaths, births, or transfers. Once the questionnaires are returned, the process of creating the 2011 International Cheetah Studbook will begin, as well as updating the SPARKS system with the facilities most current information.

2. International Meetings

Skoll World Forum - Oxford, UK, March 2011

Dr. Laurie Marker was invited to be a delegate at the prestigious Skoll World Forum held in Oxford, UK in March. The Forum provides an opportunity for hundreds of delegates from the social, finance, private and public sectors to convene for three days and nights of critical debates, discussions and working sessions aimed at innovating, accelerating and scaling solutions to social challenges. Dr. Marker is already in touch with several connections made at this event in order to discuss mutually beneficial relationships.

Zoo Association for Conservation Conference (ZACC) – Seattle, Washington, US, March 2011.

Carolyn Whitesell represented CCF at the Zoo Association for Conservation Conference (ZACC) conference in Seattle in March. CCF is considered one of the model conservation programs. As such, CCF's conservation was highlighted during the "Footage from the Field: ZACC Night at the Movies" at the Seattle Aquarium with the inclusion of CCF's introductory video. In addition, Dan Harris, ABC's Anchor of Weekend Good Morning America, showed the special filmed at CCF last year.

Cheetah Reintroduction Meeting -Pretoria, South Africa, June 2011

Drs. Marker and Brewer attended a critical meeting to discuss opportunities and guidelines for the reintroduction of cheetah across national borders for conservation purposes. The meeting was facilitated by Drs. Netty Purchase and Sarah Durant from the Rangewide Conservation Planning for Cheetah and African Wild Dog (Southern Africa office).

It has become clear that the next 3-5 years could see a number of restorations (reintroductions) of cheetah taking place in the southern Africa region, as wildlife areas are rehabilitated and become suitable for cheetah releases. The meeting provided an opportunity to discuss issues such as cheetah conservation strategy, recoverable areas, and meta-population management, among others. Dr. Marker's talk covered Cheetah rehabilitation and restoration projects in Namibia.

There was a plenary session to identify key issues resulting from the presentations to guide discussions. The group drew up a list of different types of release sites in the southern Africa region and a list of the characteristics/types of cheetahs that should be used for releases in these different types of identified areas identified (wild, rehabilitated from cub, rehabilitated from adult, captive bred and other types), as well as a list of the types of institutions/organisations that have cheetah suitable for release in the southern Africa region. From these discussions, a preliminary set of recommended guidelines will be developed for use by governments and CITES in issuing of permits for translocation of cheetah for restoration projects.

Giraffe Indaba 2011 - The Forgotten Megafauna - Etosha, Namibia, July 2011

Despite the giraffe's international 'pull' being second to none with regards to tourism, the species has so far received little scientific attention. Their taxonomic status is under question, subspecies are endangered and their numbers are plummeting. As such, giraffes are truly Africa's forgotten mega fauna.

In early July 2011, the Giraffe Conservation Foundation (GCF) together with the IUCN SSC ASG International Giraffe Working Group and the Namibia Nature Foundation as in-country host organised the world's first ever Wild Giraffe Conference in Namibia: the Giraffe Indaba - The Forgotten Megafauna - (indaba is the Zulu word for 'meeting'). Dr. Laurie Marker and CCF ecologist Katherine Forsythe joined over 30 giraffe experts and researchers from 11 countries to discuss the issues faced by this species as its numbers across the continent are estimated to have reached less than 80,000, down from some 140,000 at the turn of last century.

Presentations and delivery of research papers covered from poaching proliferation, lion predation and ecological, social and gender issues, to the very latest in computer-assisted identification software and methodology, all of which led to workshop sessions on taxonomy, genetics and research technology. Marker and Forsythe presented a talk entitled 'Feeding ecology of giraffe (*Giraffa camelopardalis*) in a fenced game reserve in North-Central Namibia' based on CCF's Bellebenno giraffe research project.

The world's foremost authority on giraffe, Dr Julian Fennessy, Chair of the IUCN SSC ASG International Giraffe Working Group and GCF Trustee, ran a forum to establish a 'road-map' document, detailing short- to medium-term research goals focussing specifically on the long-term understanding of giraffe in their natural habitat, and essentially developing a conservation management strategy framework.

South African Wildlife Management Association (SAWMA) Symposium – South Africa, September 2011

This year's SAWMA Symposium, titled The Human-Natural Resource Interface: Reconciling Conflicting Trade-offs?, covered topics that included sustainable resource use, ecological challenges and conservation strategies, human-wildlife conflict, general ecology, assessing human impacts on biodiversity, carnivore management and predator-livestock interactions. CCF's LGD Programme and Human-Wildlife Conflict Co-ordinator Gail Potgieter presented some of the results of her MSc study, The Effectiveness of Livestock Guarding Dogs for Livestock Production and Conservation in Namibia.

Rainer Arnhold Fellows' Design Course - Bolinas, California, USA. September 2011.

Dr. Marker was selected to participate through the Mulago Foundation with its Managing Director, Kevin Starr, and eight other members, in this special workshop devoted to people with good ideas about change in areas that need change. The course brings Fellows and faculty together for a week to work on design for maximum impact and scalability. Held in a mountain nature preserve, the course gives Fellows the rare opportunity to focus completely on their ideas and a systematic way to apply them.

American Zoo and Aquarium Association (AZA) Annual Conference - Atlanta, Georgia, USA. September 2011.

Dr. Marker presented a paper at AZA on how CCF solicits, builds and maintains a base of zoo funding in the USA.

2nd Panthera's Advisory Council Meeting -Pantanal, Brazil. September 2011.

In September 2011, Dr. Marker was invited to participate in the second meeting of the Panthera's Advisory Council hosted by Tom Kaplan in the Brazilian Pantanal. Dr. Marker spent a week in Cuiaba, Brazil with other big cat conservationists at the Panthera ranch, discussing the strategic 5-year plans for several of the Panthera projects, as well as future collaborations and processes necessary to implement these plans. Marker presented on the Cheetah Strategic Planning process and the work of CCF.

3. Association and Conservancy Relationships

Large Carnivore Management Association (LCMAN)

CCF continues its work with the LCMAN as one of the stakeholders and secretariat of this group of NGOs, researchers, farmers and government. LCMAN helps guide the conservation and management of large carnivores in the country and facilitates communication among the stakeholders to ensure a coordinated approach. This association further functions as a resource for MET to provide expert advice and guidance during policymaking procedures.

The protocol for the pickup and release of carnivores that was created in 2010 by the research subcommittee chaired by Dr. Laurie Marker was put into practice during 2011. All of the LCMAN members involved in carnivore relocation expressed satisfaction with the new protocol, as it has streamlined the approach to picking up and releasing carnivores. Two of the positive results of the protocol were the increased communication among the carnivore NGOs and a reduction in the number of carnivore translocations in 2011.

In 2011, CCF representatives attended three LCMAN general meetings and two research subcommittee meetings.

The first research subcommittee meeting on 28 February was a landmark meeting as LCMAN invited NGOs from neighbouring Botswana to attend: Cheetah Conservation Botswana and Tau Consultants -- both of which have working relationships with CCF. This meeting was held in Gobabis, a town close to the Botswana border and a hot spot for human-wildlife conflict that extends to Ghanzi in Botswana. The second special research subcommittee meeting was held on 30 November in order to collate data from the member organisations on the distribution and abundance of carnivore species in Namibia. Once the data is consolidated, LCMAN will produce information that will be used for the IUCN red data book for Namibia. CCF and provided data on the density and distribution of cheetahs in the country.

A new website was launched by the marketing subcommittee of LCMAN at the general meeting of 28 February 2011. Additional tools on the site will allow member organisations to share information quickly and easily. This website will be an excellent tool for marketing the work that LCMAN does and providing information to the public in an easily accessible and attractive format. The address for the new website is www.carnivore-namibia.org.

During the LCMAN meeting on 7 June, Dr. Chris Brown of the Namibian Institute for Sustainable Development presented several plans that may require LCMAN involvement. The first of these was the action plan for the conservation of endangered Cape vultures, which includes an action to ban poisons used to eliminate predator species on farms. As the use of poison is most often in response to human-carnivore conflict, Dr. Brown requested that LCMAN join the call for banning these poisons and assist in implementing such a ban. Secondly, Dr. Brown presented a new web-based database that is being

developed as a free service by the Namibian Nature Foundation that promises to be an exceptional resource for researchers.

Dr. Brown made LCMAN aware of a plan of action that has been developed to support the conservancies in the Kunene region. In particular, he requested assistance for the human-wildlife conflict section of the plan, which includes providing training courses on livestock management to reduce losses to predators. He further invited an LCMAN representative to be part of a new human-wildlife conflict forum that is to be established among the southern Kunene conservancies. The LCMAN members welcomed these suggestions and agreed to provide support for the plan in the form of trainers and training materials.

During the Annual General Meeting on 17 October, the LCMAN chairman reported that the organisation had made many positive steps over the last year. Consequently, the members elected to keep the same people in their current committee positions to ensure continuity as LCMAN moves towards 2012. Thus, Dr. Marker will continue her current roles as secretariat, and as chairperson for the LCMAN research subcommittee.

Conservancy Association of Namibia

After serving as Chairwoman of the Conservancy Association of Namibia (CANAM) for the previous five years, Dr. Laurie Marker now serves in the position of Vice Chair. During the year, Dr. Marker attended three meetings and helped to plan the Annual General Meeting in April. Since she was unable to attend this meeting, CCF Farm's Manager, Johan Britz attended for both his conservancy and the Waterberg Conservancy. CANAM has taken a non-active role in most areas, however continues its association with the Namibian Agriculture Union.

During the first half of the year, the main work of CANAM was to finalise the first edition of the Commercial Conservancy publication which has been spearheaded by Dr. Marker and CCF. This publication was printed in early 2011. This new conservation book, *The Conservancy Association of Namibia: An Overview of Freehold Conservancies*, was launched in March by CANAM during a presentation by CANAM Chairman Wilfred Pack to the Honourable Netumbo Nandi-Ndaitwah, Minister of Environment and Tourism.

This publication provides an overview of freehold conservancies in Namibia and CANAM. The book includes a discussion of the conservancy movement in Namibia, the development of CANAM, natural resource management; particularly wildlife numbers and densities, the economic impact of conservancies and diversification of land-use, the procedures required to establish a freehold conservancy and future directions for CANAM. In addition, the book contains a study entitled "Characteristics of Freehold Conservancies in Namibia" by Dr. Larkin Powell and individual profiles of CANAM's freehold conservancies. This is the first compilation of data from 22 of Namibia's freehold conservancies and other sources.

4. Illegal Wildlife Traffic

CCF first became actively involved in issues involving the illegal taking of live animals in November 2005, when it arranged for the confiscation of two extremely unhealthy cheetah cubs being held in chains outside a restaurant in Ethiopia. Since then, CCF has been following news and receiving reports of similar cases and has coordinated confiscations through the proper authorities whenever possible. The geographic areas of these reports are mostly the Middle East, Somalia, and Ethiopia. Between direct

reports and various media articles, CCF has knowledge of at least 257 cheetahs victim of the illegal wildlife trade.

In 2007, CCF became a member of the Coalition Against Wildlife Traffic (CAWT), a voluntary public-private coalition started by the Bureau of Oceans and International Scientific and Environmental Affairs of the US Dept. of State. CAWT's membership includes six governments and 14 NGOs, including the IUCN, TRAFFIC, Conservation International and WWF. Its aims are to focus public and political attention and resources on ending the illegal trade in wildlife and wildlife products.

Cheetahs were first included in the CAWT agenda in July of this year. Represented by CCF's Assistant Director of International Programmes Patricia Tricorache, CCF submitted a report of all known illegal wildlife traffic activities. CCF urged CAWT members to assist with addressing the issue. Subsequently, IFAW reported that it has run a series of training events in the region on prevention of illegal wildlife trade led from its office in the Middle East (based in Dubai). The most recent was in Djibouti in partnership with WCS and the Lusaka Agreement Task Force, and included participants such as vets, police, customs officers, etc from Djibouti, Somalia, Ethiopia, South Sudan and Kenya. Trafficking of cheetah cubs was one of the areas identified by participants as a priority for action.

During this period, and under Tricorache's coordination, CCF has formed a network of concerned individuals and NGOs around the Somaliland area of Somalia, where activity seems to be intensifying. Along with NGOs in Somaliland, Ethiopia and Djibouti, CCF is attempting find solutions for dealing with cheetah cubs confiscated in this region, given that absence of a facility there that can take care of them. Obtaining CITES export permits for these cats is practically impossible due to Somaliland's status as an unrecognised sovereign state, and therefore not a signatory of CITES. In 2011 alone, there were 54 cheetah cubs reportedly taken for the illegal trade in this region. Of these, 33 were reported as confiscated by the authorities, but of these, 18 died for lack of proper care. Four other cubs, not confiscated, died shortly after being taken from the wild, still with their captors, and the fate of 22 remains unknown.

At the time of closing this report, ten cubs were expected to be confiscated and transferred to this facility. To this effect, a small emergency care space has been secured in Somaliland, and CCF is working to organise veterinary and nutritional supplies, as well as training people in cheetah care, until alternate solutions can be found.

I. Sustainable Economic Programmes Supporting Local Communities

If the world's fastest cat is to survive in the wild, humans must co-exist with it. The following progress has been made on CCF's activities that seek to 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

General Manager Dr. Brewer met with the German Development Corporation (GTZ) regarding the possibility of applying for Clean Development Mechanism credits and the Meatco Foundation regarding bush harvest schemes. We also hosted an environmental consultancy, ERM, which evaluated the project pro bono. Grant requests to the EEP (Energy and Environment Partnership Programme with Southern and Eastern Africa) were not successful.

Sales remained low; a total of 305 tons during 2011. Namibian and South African sales improved slightly, but there were no European sales. Advance requests for 2012 exceed 1000 tons.

Financially, the low sales had a negative impact, as did another large increase in electricity charges. The older wood chipper underwent a very expensive repair.

Samples of raw chip were prepared for two clients investigating pellet production.

The Forest Stewardship Council (FSC) inspected CCF for certificate renewal in April, and issued approval.

2. Cheetah Country Initiatives

Cheetah Country Beef (CCB)

Claire Higgins, a Master's of Science degree in Conservation from University College London in the UK, spent nearly two months at CCF this summer to carry out research for her thesis, which looks at the challenges facing wildlife-friendly eco-labels as economic incentives for conservation. Her case study was the Cheetah Country Beef initiative, and specific research questions aimed at investigating, a) what specific challenges did the CCB initiative face and what barriers were present in its supply chain, and b) what solutions or alternatives might exist to enable this product to come to market?

During her time at CCF, Claire carried out a complete excavation of the archival history on the initiative. She also contacted key stakeholders in the supply chain and held a total of 12 expert interviews to further explore peoples' perceptions and opinions on the initiative and on wildlife-friendly eco-labels more generally. Dr Marker helped in identifying and approaching the stakeholders to arrange the meetings, especially a meeting with Meatco. Claire concluded that there is currently not enough product in Namibia to fulfil international demand and there are problems with certification, e.g. cost and monitoring. CCF will analyse her conclusions and explore alternative options if applicable.

Cheetah Country Crafts

CCF has been involved in a Cheetah Country Crafts programme with local women for over 18 years to provide supplemental income. CCF provides materials to programme participants and then buys back the finished products to sell in the eco-tourism gift shop and overseas during the Director's international travels. Since 2009, the primary focus of this programme has been on beaded necklaces and embroideries. The programme has gained momentum through the training of local women in the production and sale of these crafts.

Cheetah Country Goat Cheese

CCF began making fresh goat cheese in August 2009 using the milk from CCF's dairy goats. The programme aims to facilitate training and skill development around the production of goat dairy products, thus enabling livelihood diversification and supplemental income to community members. The types of cheese being produced were Feta, Chevre, Ricotta and Parmesan; however, during the second half of the year, and based on demand, the CCF cheese kitchen has reduced its production to only two varieties: Feta and Chevre.

The CCF farming strategy has evolved to selecting high-quality breeds of livestock selection based on the specific animal's phenotypes and body scoring. The idea includes reducing the number of Boer goats and Damara sheep through selection of best quality, and increasing the dairy goats for maximum milk productions.

The total milk production for 2011 was 8,227 litres, of which 6,746 (82%) were used for cheese production, while the remainder was used for raising goat kids. Average milk production has grown over the period since the programme's inception in mid-2009 (Figure 44). 2010 showed a high average of 30 litres in December, and a low of 8 litres in June. Consistently, the highest recorded average in 2011 was also December with 36 litres, and the lowest, July with 12 litres. Lower production during the winter months (June-August) is due to the end of the 10-month milk cycle that the dairy goats have and coincides with CCF preparing the goats for the breeding season, which starts in August to September.

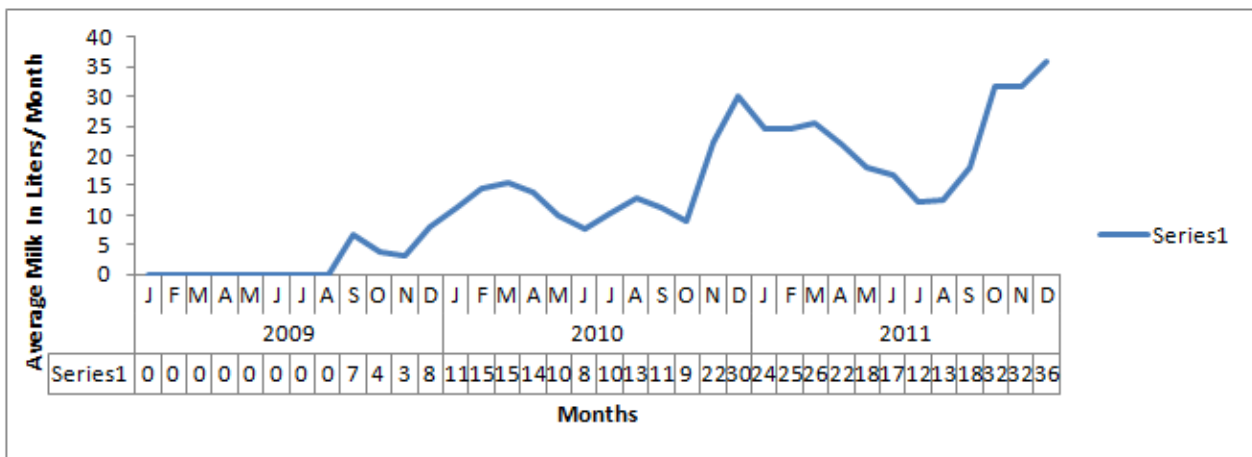


Figure 41 Dairy goat milk production 2009-2011.

Cheese production for this 12-month period totalled 426.07 kg of cheese from 6,746 litres of milk (Figure 42). This represents a total yield of 6.3%. The yield increased over the second half of the year as much more of the whey was being used for cheese production as well. In addition to being used at the CCF kitchen and sold at the CCF Shop, our main cheese purchasers have been Spar Supermarket and the Frans Indongo Lodge.

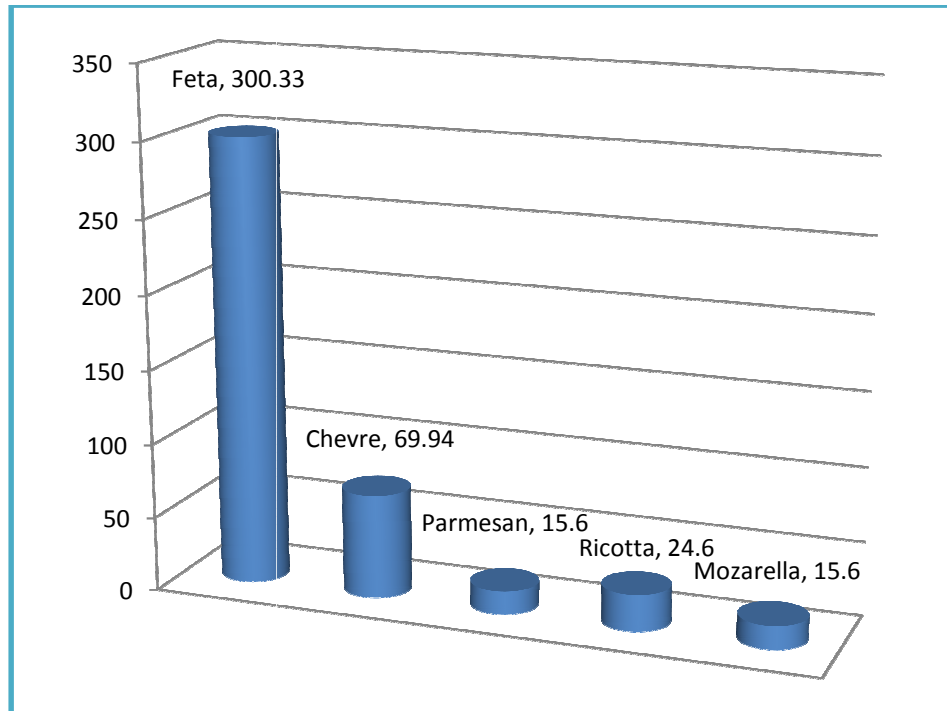


Figure 42. Kilograms of cheese produced from Jan-Dec 2011.

3. Eco-Tourism

Tourism is one of Namibia's fastest growing industries, with a large number of developments emerging in the Otjiwarongo area over the past couple of years. CCF's eco-tourism potential continues to grow as it has become one of the region's leading travel and tourism destinations, thus boosting the local businesses of Otjiwarongo.

Some of the visitors welcomed this year included CCF USA board members Beth Wallace, Dan Beringer, Carol Hosford and Polly Hix, CCF UK trustee Andrew Jirat-Wasiutynski, CCF USA trustees Angela Weisskopf and Jayne Bazos --joined by her sister Kris, and CCF's long-time supporters Gregor and Andreas Freund.

a) Visitors Analysis

Despite the ongoing financial crisis, Namibia became more affordable as the Namibian dollar recently weakened against major foreign currencies. This provides CCF with the opportunity to capitalise on the projected 2% increase in visitors to our country. However, as tourists are increasingly becoming seasoned international travellers, they will become more discerning and choose those destinations that can provide a more memorable experience and a good value for their money. Therefore, CCF strives to ensure that the product offered to the tourism sector is sufficiently attractive.

Even though Namibia had external influences that negatively impacted the national tourism arrivals in 2011, CCF has shown a steady number of visitors during the initial tourism season. During this period, a total of 6,224 people visited CCF. August was by far the busiest month of the year (Figure 43), as this is when France, Germany, United Kingdom and other European countries have their summer holidays. The slowest months were January, February and December, which is to be expected due to the rains.

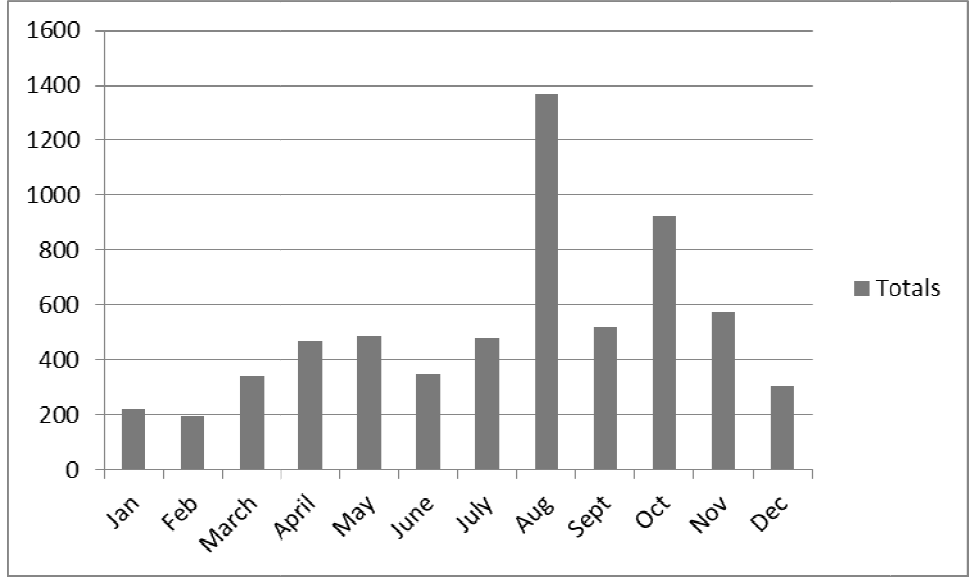


Figure 43 Total number of guests to CCF per month

Other than walk-in visitors, CCF's main source of visitors is Exclusive Reservations, which is a new agent (Figure 44). CCF also receives a number of bookings from two local lodges, Frans Indongo and Waterberg Lodge. Walk-in visitors are typically passing on their way to or from Etosha National Park.

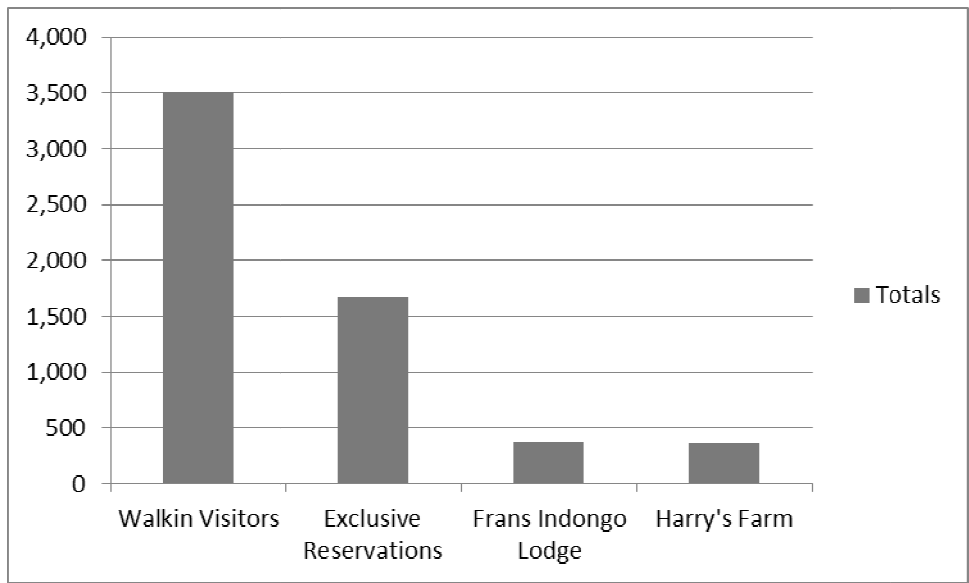


Figure 44 Where visitors came from during 2011

Figure 45 shows that a large majority of tourists are from Germany, which is not surprising as Namibia still has close links with that country dating back to Germany's colonisation of the region.

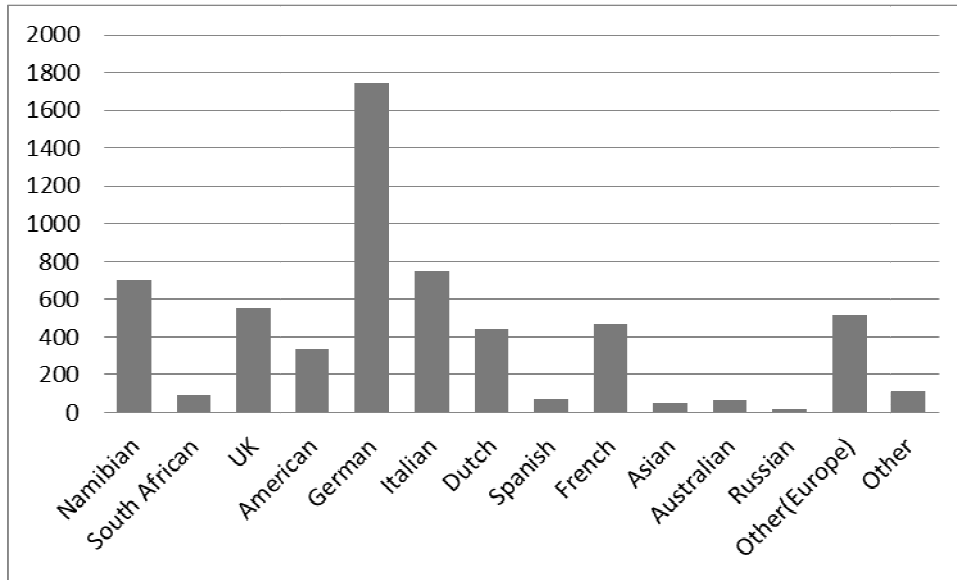


Figure 45 Visitor nationalities during 2011

By far the most popular activity for guests is the CCF’s Education Centre (Figure 46) as it does not require pre-booking. The Cheetah Run, Bellebenno, Cheetah Drive (previously known as the Eland’s Safari), Little Serengeti Game Drive and the Exclusive require pre-booking by our agent Exclusive Reservations.

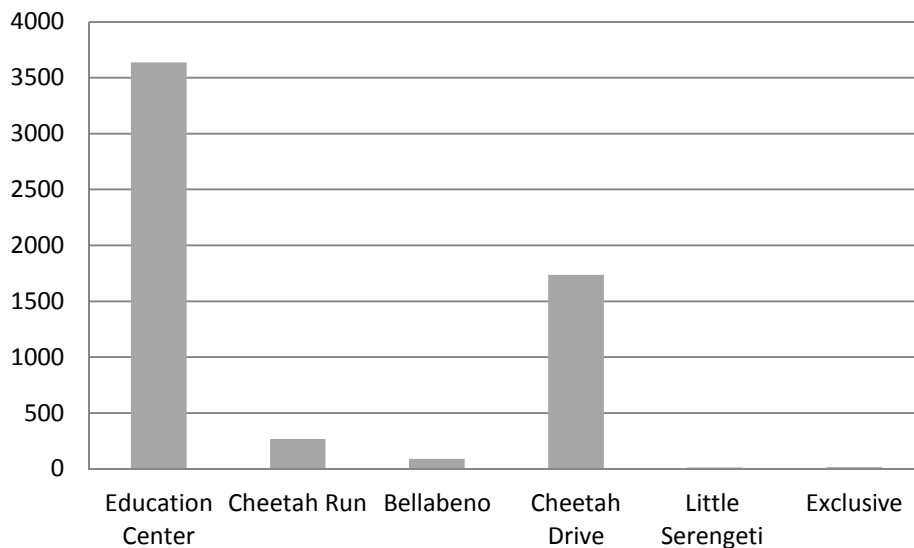


Figure 46 Number of guests per activity during 2011

During this period, CCF’s eco-tourism activities showed a steady increase in revenue from the beginning of the year, with a peak in the dry warm months of July and August, when CCF receives most visitors. Interestingly, even though those are the busiest months at CCF, they are not necessarily the months when visitors spend the most amount of money. Those months include September and November, with May exhibiting the lowest average spent per visitor.

b) Marketing

Earlier in the year CCF said goodbye to its long-term partner nuevas ideas CC. We thank them for their support of nearly 10 years and the important role they played in placing CCF on the map and making it a well-known property within the Namibian tourism sector.

CCF's new marketing agent, Exclusive Reservations, has now been positioned with the responsibility to take CCF into the future, based on the impressive portfolio of properties that they represent all over Namibia. Exclusive has been charged with the objective of transforming the CCF brand to make it distinctive and different. By the same token, attractions that encourage tourism operators to market CCF as a tourism destination are being evaluated. The CCF tourism department is also working on improving the information and materials supplied to visitors on departure in order to encourage them to become engaged and share their experience with their closer and wider networks once they have returned to their homes.

In early June, CCF participated in the Windhoek Tourism Expo and had direct contact with the local and international marketers that specialise in promoting Namibia. It became evident that the general knowledge of CCF is defined by a single icon – the fastest animal on earth, the cheetah, which creates a new challenge for Exclusive Reservations in their efforts to sell CCF to the Namibian tour operators.

In November, CCF staff attended the Hospitality Association of Namibia (HAN) annual congress and manned a booth to network with tour operators and media. CCF is a member of HAN, an organisation that represents the hospitality and tourism industry to the Namibian Tourism Board (NTB). Both HAN and NTB are working together to bring in more tourism to Namibia in the years to come, with a focus on the North American market.

New Visitor Attractions

April saw the launch of the 'Cheetah Restaurant'. The top kitchen serves light lunches and snacks all day from the veranda; however, visitors increasingly request light meals. Consequently, in collaboration with Exclusive Reservations, CCF is pitching this new option to the operators and agents that book activities to include it in their itineraries. The availability of light meals has the potential of prolonging visits while providing CCF with the chance to get closer acquainted with its guests.

The new menu includes items such as toasted sandwiches, wraps, salads, sweet crêpes, and homemade cake of the day. In November the menu was reduced, as the café is not expected to be as busy in the following months. Since its opening, the café has sold N\$30,756, including group lunches. In addition, CCF continues to offer set menus and buffets to larger groups. This facilitates the effectiveness of the kitchen and helps clients to move through the lunch period without delays.

Also in April, the 'Daily Board' was launched. A large chalk board now stands outside the gift shop, detailing activities on offer at CCF during the day. The board is updated daily with special activities that are not part of the standard activities. Its aim is to entice guests to spend more time at CCF and turn what would have been a short visit, into a longer, educational 'day visit'.

c) Babson House

The Babson House remains the only tourist accommodation offered at CCF. This prime top-end accommodation is a real highlight for any visitor. CCF had 23 different paying groups --including three

film crews-- that stayed in the Babson House during 2011. Babson House guests are provided with an informative and very exclusive itinerary. Feedback received from comments and departure questionnaires indicate that they all had a fantastic stay. Two French guests who stayed during May rated all categories on the questionnaire (accommodation, cuisine, service, activities and guides) 'excellent' and in the 'general comments and suggestions box' they wrote "don't change anything." The following message summarises the overall opinion of Babson House guests:

"It was a once-in-a-life experience to have a clearer view into the work of the CCF...We enjoyed every minute of our stay and will come back as soon as possible!"

VI. STRUCTURAL ACTIVITIES

A. Namibian Facility Developments

1. Existing Structural Projects and New Projects

The batteries for the photo voltaic (PV) system of the Babson/senior staff array had to be replaced as they could no longer hold sufficient amps. They were replaced and the best of the old batteries were used at Camp Lightfoot where a 24-volt system was installed to service the 10 huts and the ablution block. The dining area at Lightfoot was also extended.

The largest of the small farmhouses at Elandsvreugde fell vacant due to a retirement and was renovated and furnished as a three-bedroom student quarters.

The Hot Spot (staff kitchen and dining room) was renovated. A small addition of the pantry was added; the electrical system was upgraded; the patio and walkways were improved; the exterior dining area received more shade/rain cover and additional picnic tables; and a new roof was constructed. During construction staff ate at the Visitor's Center – the braai seating area was enlarged to accommodate this.

The road system suffered due to the extensive rains and some became impassable. Frequent grading of the runway became necessary. Diversion channels to Main Road and South dams worked well and both filled nicely.

The VHF radio repeater failed and an insurance claim was submitted. Replacement options were investigated.

New communication masts were erected on "leopard" hill and on the Babson House. A WiMax receiver was set on Babson and WiMax became the main internet gateway for the CCF Centre. This improved bandwidth and reduced price.

The goat compound was improved with shade structures and a second milking stall added.

A new cheetah enclosure was constructed adjacent to the "Centre Pens".

2. The Rhino Reserve

Some roads were temporarily impassable due to the heavy rains. An initial site survey for an extensive remote-monitoring system was conducted and a quote obtained.

Perimeter fence repair and removal of old interior fence was ongoing. The main dams retained water well.

3. Automotives

Several of the older bakkies experienced failures and were taken out of service. Tyre repair continued to be an expensive and time-consuming problem. A spare tyre and rim for the main tractor was purchased to minimise downtime.

The cheetah bus repairs continued. A damaged bakkie was sent to town to be rebuilt as a tour vehicle. The Traxcavator starter motor was replaced (a major repair).

4. Recycling

The CCF Tourism department has been the driving force behind several recycling initiatives at CCF this year. We have been working on the ongoing separation of bottles and cans found in the dumpsite. All bottles have been cleaned and have been used to build a 'bottle hide' by one of CCF's dams. Cans are being packaged and transported to Windhoek for recycling. CCF is receiving 50 cents per kilo.

Other scrap metal or the likes found at the dumpsite are being used around the CCF property for ongoing projects. Benches have been built out of scrap metals. These have been positioned around the centre pen for cheetah run viewers and by the fire place at the Hot Spot.

All trash pits and the compost area were cleaned in preparation for the FSC inspections. Volunteers took many spent printer cartridges away for recycling.

5. Fires

It was a traumatic fire season. Fire from the west jumped into farm Boskop and burned a few hundred hectares. Fire from the east (a supposedly "controlled burn" on a neighbouring farm) burned several hundred hectares of farm Bellebenno. A fire from a neighbour on the north border burned about 4,000 hectares of farm Janhelpman. In all instances no cattle were lost and we are not aware of any wildlife losses. There was fence damage.

B. Staffing

Laurie Marker, DPhil – Founder and CEO

Bruce Brewer, PhD - General Manager

Anne Schmidt-Küntzel, DVM, PhD - Research Geneticist and Assistant Director for Animal Health and Research

Patricia Tricorache – Assistant Director, International Programmes and Webmaster

Gabriel Angala - Tourism Officer

Engelhardt Awaseb - Assistant Farm Manager

Johan Britz – Farms Manager
Tanya Britz - CCF Bush Accountant
Ignatius Davids – Education & Tourism Officer
Juliette Erdsieck - Cheetah Keeper
Ezequiel Fabiano - Research Assistant, PhD. candidate
Karin Falk – CCF Accountant
Gaby Flacke , DVM, MVSc - Veterinarian
Santa Friederich – Executive Assistant
Charles Geingob – Tourism Officer
Rosie Glazier, DVN - Veterinary Nurse
Alfred Hendricks – CCF Bush Foreman
Joeh Jonas - Assistant Livestock Manager
Donna-Lee Karita – Tourism Administrative Assistant
Patricia Munene – Housekeeping Supervisor & Education Officer
Priscila Nepela - Tourism Officer
Matti Nghikembua - Senior Ecologist and Education Officer
Gebhardt Nikanor – Education & Tourism Officer
Gail Potgieter - Livestock Guarding Dog Programme and Human Wildlife Conflict Co-ordinator
Lodewyk Puren – CCF Bush Plant Manager
Niki Rust - Ecologist
Rachel Shairp – Assistant Cheetah Keeper
Bessie Simon – Assistant Farm Manager
Max Simon - Mechanic
Heike Stackmann - Volunteer Co-ordinator, Public Relations and Gala Dinner Organiser
Ryan Sucaet – Head of Cheetah Reintroductions
Rob Thomson – Rhino Ecologist

CCF Namibia also employs 27 Namibian farm and domestic workers, 15 contract workers and 9 Bushblok factory workers.

CCF USA Staff

Beth Fellenstein - Constituent Relationship Manager
Paula Martin - Administrative Officer
David Moore - Development Director
Laurie Payne - Fundraising Project Manager and CCF NoCal Chapter Leader
Dorothy Scanlan - Staff Support & Volunteer Outreach
Shannon Sharp - Director of Operations and Finance

VII. ORGANISATIONAL ACTIVITIES

A. Fundraising

1. Namibia

Approximately 270 people, including individuals from the business, conservation, agriculture and government sectors in Namibia and internationally, attended CCF's 13th Celebration of Speed and

Elegance gala and fundraising dinner at the Windhoek Country Club on 15 July. This year's theme, Run with the Wind, was in memory of CCF's ambassador cheetah, Chewbaaka, who died in April at age 15, and highlighted CCF's long-term efforts to ensure the survival of the wild cheetah. The lively evening included a musical performance by classical guitarist Ashley Zolkov and violinist Jesus Lasso, as well as a silent auction, candlelit dinner, conservation awards ceremony, and conservation speeches.

Israel "Kazembire" Zemburuka, host of NBC's Good Morning Namibia, was the evening's Master of Ceremonies. Dr. Netty Purchase, from Zimbabwe, Coordinator of the Regional Cheetah Conservation Strategy for the Zoological Society of London and the Wildlife Conservation Society, was the special guest speaker and gave an enlightening speech on the cheetah as southern Africa's true icon. Dr. Purchase is involved in conservation management, attempting to link research with management to ensure that informed decisions are made regarding conservation policy in the region. In 2008, she was awarded the Kaplan Prize for Wild Cat Conservation.

The evening's keynote speaker, the Hon. Netumbo Nandi-Ndaitwah, Minister of Environment and Tourism, representing HE President Hifikepunye Pohamba, talked about the importance of the balance between the cheetah and conservation for the entire country's ecosystem.

Dr. Laurie Marker gave a short speech titled Chewbaaka: Running with the Wind, and emphasised the need for continued efforts long into the future to ensure the wild cheetah can continue to run with the wind. Dr. Marker also presented four Conservation Awards recognising conservationists, farmers, smart business practitioners and educators who help conserve the cheetah and the Namibian environment.

Maxi Louis was honoured as the 2011 Cheetah Conservationist of the Year. Maxi is one of the women leading conservation in Namibia and has received various awards for her efforts including, in 2010, third prize in the Tourism for Tomorrow Awards in China. In January, she was recognised in the US for helping to develop Namibia as a conservation tourism destination, and in March at the Indaba 2011 in South Africa for promoting the most appealing natural attractions.

Solvay Okorusu Flourspar Mine was honoured as the 2011 Cheetah Conservation Business of the Year. Solvay is an active Otjiwarongo business that supports conservation and education in the local community. The mine has supported CCF's Bushblok project by providing technical advice.

Isak ǀOuseb, Chairman for the Omkhaibasen Farmers Co-operative near Usakos, received the 2011 Cheetah Conservation Farmer of the Year Award. He has strengthened this co-operative enormously through his tireless work with the farmers in that area. His hard work was recognised recently as this co-operative received an award for the progress it has shown since he took the helm. The concern that Isak has shown for his fellow farmers, his focus on developing good farming practices and the care he provides for the CCF guarding dogs make him an excellent example for other farmers to follow.

Dennis Muesee was named the 2011 Cheetah Conservation Teacher of the Year and is one of our inspirational success stories in helping to educate students and communities.

The silent auction once again was a huge success, with over 100 items donated by local businesses, including recreational 'getaways' at exclusive tourist venues, artwork, jewellery and Namibian craftwork.

2. International Review

a) CCF USA

(1) Campaigns

CCF's fundraising campaigns involved two direct mail appeals, two newsletter mailings and 15 e-blasts (300,398 e-mails) including ten info-appeals/solicitations and four e-letters. Fifteen targeted announcements were also sent to over 50,000 e-mail addresses. In addition, the general CCF brochure was updated and reprinted for U.S. distribution.

Appeals

- **February: A Cheetah Valentine** – An e-mail campaign directed at 33 countries that celebrate this holiday, sent to 15,272 recipients.
- **Chewbaaka Memorial Challenge** – One four-piece personalised mailing sent to US addresses and two e-blasts sent to e-mails worldwide in May. The initial mailing was followed by a second one on 14 July, and a final one on 1 August. These mailings were supported by e-mailings sent to individuals around the world. This is CCF's first campaign in which the online donation page is synced to CCF USA's database management service to capture online donations meant specifically for this challenge. Upon completion of the Chewbaaka Memorial Challenge, CCF exceeded the goal of US\$200,000, matched for a total of US\$400,000. A thank-you email was sent to over 20,000 email addresses in mid-September.
- **Year-End Matching Gift Challenge Appeal** - CCF brought its fundraising efforts to a close for 2011 with its Year-End Matching Gift Challenge Appeal. The appeal was initiated with the support of 17 friends who each contributed a significant donation to challenge friends and supporters to make a year-end gift. These donors combined their resources for a total of US\$200,000, from which gifts made to the campaign would be matched dollar for dollar.

The initial appeal was mailed to US addresses and was bolstered with five international e-mail appeals and a holiday card. A second follow up appeal was mailed to US donors. Upon completion of campaign, CCF exceeded the goal of US\$400,000. A thank-you e-mail is planned to go out in early January 2012.

Newsletters

- **Cheetah Strides newsletter** - The inaugural version of the new CCF's newsletter, designed with the support of Discovery Communications, was mailed in February to people in the US. An electronic version was sent out in lieu of Notes from the Field in late March worldwide. A second Cheetah Strides newsletter was mailed in September to US addresses and e-mailed to non-US e-mail addresses
- **Dr. Laurie Marker's Notes from the Field** – Alternatively with the two e-versions of Cheetah Strides, CCF sent out two e-letters: the first one on the occasion of Chewbaaka's birthday, 3 July, and the second one prior to New Year's Eve.

Bi-annual updates on 40 of CCF's resident cheetahs were e-mailed to all sponsors in May and November. In addition, four issues of Cheetah Champs, a newsletter created by CCF volunteers for CCF volunteers,

were sent in March, June, October and December to CCF's former volunteers or *alumni*. Cheetah Champs includes articles submitted by volunteers about their experience with CCF or how they have remained engaged with the organisation. The newsletter aims to encourage more volunteers to continue supporting CCF once they return home from Namibia.

(2) Tours

Dr. Marker traditionally travels to the USA for fundraising in the spring and fall months. This year she travelled in April-May and September-October, respectively. Within each tour she travelled to 10 states, and visited 19 cities in the spring and 15 cities in the fall. Highlights of both tours included:

Fundraisers

- Special party at the Wildwood for CCF with major stakeholder Howard Hedinger, American Industries, in Portland, OR; also, an open house thanking CCF supporters at the home of former CCF USA trustee Teresa Delaney.
- Special dinner for CCF benefactors hosted by Steven & Florence Goldby in northern California, supported by WCN members.
- CCF USA Trustee's luncheon at Perry's Restaurant co-hosted by Patricia Klitgaard and Kay Bishop with Bay Area high-end donors and Dr. Marker's parents Marline & Ralph Bushey.
- Special private dinner with major benefactor and Chewbaaka Challenger Gregor Freund and his family in San Francisco.
- Special evening with CCF USA Trustee Peter Warren in Denver with Denver Zoo CEO, Craig Piper and CCF supporters from the Colorado area.
- Event in Salida, CO, with CCF hosts Pip and Aaron Conrad, which included a special tour of Colorado with CCF Colorado Chapter Head Elise Ward.
- Special evening with CCF USA trustees Anne E. Wishard and Polly Hix in Indianapolis, IN at the home of Gordon & Anne Wishard, with CCF Patricia Galloway and other sponsors.
- Mangelsen Nature Gallery event, hosted by Linda Rock Paul and Vic Paul in Omaha, NE with co-host Peter Gros from Mutual of Omaha.
- *Night in Namibia* in the Woodland, TX hosted by Barbara Nussa and Debra Ford from Ford Agency. Wildlife artist, Anne London attended with silent auction paintings at the Laura Rathe Art Gallery.
- Atlanta BBQ with hosts John & Audrey Wilson.
- Special evening in Norwalk, CT with hosts Dr. Gerry Post and David Duchemin, with CCF members from New York, Connecticut and New Jersey.
- Special meeting with CCF Trustee Manny Friedman and Houston attorney Mark Lanier and wife Becky at their Houston home.
- Laguna Beach, CA fundraiser hosted by CCF USA and UK trustee Alison Ravano and CCF Board of Directors and Trustees.
- A unique evening in Seattle, WA at The Ruins co-hosted by CCF USA Trustee Eric Berman, and CCF Director Carol Hosford and cheetah ambassador Taini.
- Cultivation dinner party hosted by CCF USA Trustee Rohini Talalla and Jeff Bader at their home in Chevy Chase, MD.

CCF Chapter Galas

- Big Cat. Big Party in Portland, OR with the Oregon Zoo and CCF USA Trustee Donna Coe, Janet Waggoner, CCF Oregon Chapter volunteers and ambassador cheetah Taini on 9 October.
- CCF Chicago Chapter Gala in Chicago, IL at the offices of Foley & Lardner, overlooking Lakeshore Drive, with CCF USA Trustee Jayne Bazos, CCF Director Polly Hix and ambassador cheetah Moya from the Columbus Zoo Promotions on 15 October.
- CCF DC Chapter Gala, 10th Anniversary, hosted by Foley & Lardner, overlooking the Potomac River, with DC Chapter Head Elizabeth Karch, volunteers, Columbus Zoo's ambassador cheetah Moya with Suzi Rapp and Brian Greene, on 20 October.

Lectures and Conferences

- Portland's University Club lecture and reception arranged by CCF USA Trustee Donna Coe, in Portland, OR.
- Woodland Park Zoo, Seattle, WA hosted a Brown Bag lecture with zookeepers, arranged by Dr. Darin Collins.
- Eastside Preparatory School hosted Dr. Marker with full student body, Principal Chris Bischof and co-hosts, Steven and Florence Goldby.
- *A Race for the Future* lecture at the Oakland Zoo in Oakland, CA with all funds collected to support CCF.
- A meeting and talk with Disney Nature Film- African Cats at El Capitan Theatre in Hollywood, CA with Disney executives and CCF South California Chapter.
- Explorers Club lecture at the Adventure Club in Los Angeles, CA with Alan Feldstein.
- Cosmos Club lecture and dinner in Washington, DC arranged by CCF USA Trustee Gary Kopff, with Columbus Zoo cheetah ambassador Jacob. Dr. Marker is a new member of the Cosmos Club and addressed a crowd of 120 VIPs.
- Dallas Zoo lecture at the 1st Anniversary of the Giants of the Savannah exhibit with CCF constituents and zoo colleagues, hosted by the zoo's CEO, Gregg Hudson.
- AZA Conference, Association of Zoos and Aquariums, in Atlanta, GA with a lecture on how CCF solicits, builds and maintains a base of zoo funding in USA.
- WCN Expo, Wildlife Conservation Network, held at the Mission Bay Conference Center in San Francisco, CA with over 4000 attendees to support CCF and conservationists worldwide. Dr. Marker annually addresses the plight of the cheetah worldwide.
- Safari West dinner and lecture, *Celebrating Speed & Elegance* with over 75 members and supporters from the Santa Rosa, CA area.
- Special lecture for the National Association of Biology Teachers (NABT) in Anaheim, CA. Dr. Marker addressed over 80 teachers nationwide on the *Aspects of Biology, Ecology and Conservation for the Cheetah in Namibia and Beyond*.
- Brookfield Zoo evening lecture in Chicago, IL with zoo and CCF members attending the full-house event.

Awards and Special Events

- Busch Garden Zoological Park and Entertainment Center celebrated the grand opening of the Cheetah Hunt roller coaster and their newly-built cheetah facility housing over seven cheetahs with a cheetah run in May 2011 in Tampa, FL. Dr. Marker was invited as a guest of honour to the

opening celebrations, during which she addressed a crowd of thousands and receive a Busch Garden's grant of \$16,000, as well as donations from the opening day's gate proceeds. Numerous media events and PR interviews took place during this visit.

- Dr. Marker was the recipient of the Rainer Arnhold Fellow Award and attended a week long program as a new Fellow through the Mulago Foundation, with Director Kevin Starr and eight other members. This special workshop is devoted to people with good ideas about change in areas that need change. Dr. Marker will attend this program again in the fall of 2012. The conference took place in Bolinas, CA outside of San Francisco.
- Dr. Marker attended a special gathering at the New York Yacht Club for Leaders in Conservation hosted by CCF's partner, the International Conservation Caucus Foundation (ICCF), in celebration of ICCF's Conservation Council of Nations.

(3) Run for the Cheetah and other Chapter events

CCF had one of its most successful years for its Run for the Cheetah events in Chicago, Phoenix and Portland with over 1700 run registrants. Funds raised reflected the fantastic responses from the cheetah runners, sponsors, CCF USA board members and trustees, businesses, and family and friends participating on the CCF pledge-giving pages. CCF truly looks forward to growing, flourishing and expanding its Runs into new cities in the coming years.

The CCF SO California chapter organised its first annual CCF Golf Tournament in San Diego in April with 50 golfers, silent auction and raffles. In addition all of the CCF Chapters galvanised to create awareness on Earth Day with the opening of DisneyNature's African Cats at the AMC theatres in many chapter locations, and hosted outreach booths at the Moorpark Spring Event and EarthFair in San Diego, CA.

(4) Governance

CCF USA has undertaken operational changes that assist in making the organisation more sustainable and effective. For the first time in its history, CCF offered W2 working status to several of its contractors and now has eight W2 employees. The organisation offers its W2 employees health benefits via CareFirst BlueCross BlueShield, as well as a self-directed pension plan developed by Pension Works (a Vermont company), and managed by Aspire Financial Services.

CCF USA has undergone staff changes, including:

- Shannon Sharp – Director of Operations and Finance
- David Moore – Director of Development
- Beth Fellenstein – Constituent Relationship Manager

The US Board of Directors had five meetings in 2011, and resulted in various resolutions including the adoption of the name and implementation of The Chewbaaka Society --a legacy-giving programme by which supporters can honour the life of Chewbaaka by making bequests in their wills, trusts, life insurance policies, or retirement plans. A Chewbaaka Society planned giving brochure is in the writing/designing stage.

The Annual Fall Board meeting held in October 2011 in Laguna Beach, CA, encompassed the nomination or reappointment of the following members of the Board of Directors: Mrs. Polly Horton Hix, Mr. Richard Kopcho, and Mrs. Alison Ravano; and Trustees: Ms. Annie Graham, Mr. Peter Gros, Ms. Marisa Katnic, Mr. Robert Ludlow and Ms. Suzi Rapp. A subsequent meeting held in December included a formal

resolution to expand the Board of Directors from 11 members to 13 members. The following members of the Board of Directors were voted upon for another term: Dr. Laurie Marker, Ms. Margery Nicolson and Dr. Stephen O'Brien.

b) UK: CCF UK

CCF UK Trustee Andrew Jirat-Wasiutynski resigned early this year due to increased professional commitments. In addition to being a trustee, Andrew has been a repeat volunteer and became well known for his beautiful cheetah photo calendars, which he produced to benefit CCF. We thank him for his support over the years and wish him success in his professional endeavours. Rob Cope, who has been serving as CCF UK Treasurer for the last few years, is unable to continue in this role due to his professional commitments. CCF UK would not have been able to transition during the illness and passing of its Secretary Peter Stewart without Rob's dedication. Trustees Alison Ravano and Deborah Iliffe have agreed to take over the treasury duties in 2012.

The CCF web master and international director, Patricia Tricorache, continued to provide web maintenance support to CCF UK during this period, ensuring that information contained in the UK site is compatible with the global CCF web site. A future project entails redesigning the CCF UK web site to look like the global CCF site. Patricia also continues to support CCF UK with donation fulfilment.

While in the United Kingdom to participate in the Skoll World Forum, Dr. Marker lectured at the Paradise Wildlife Park and Eagle Heights --two of CCF's long-time partners in conservation.

Anja Bradley, CCF UK's Development Research Consultant and long-time volunteer, has taken on a larger role in the revitalisation of CCF UK, by cultivating volunteers and supporters. In addition, Anja's efforts resulted in CCF UK's participation in the WildlifeXpo, a major new wildlife exhibition held in October at the Alexandria Palace in London. Bradley lectured about the ecology of the cheetah and CCF's work. Big Cat Photography, one of CCF's Artists Helping Cheetahs partners, generously shared its stand with CCF in prime position in the exhibition hall. Anja and CCF volunteers handed out information materials and sold cheetah-related items.

At Dr. Marker's request, Anja represented CCF at the Symposium "Antelope Conservation in the 21st Century: From Diagnosis to Action," hosted by the Zoological Society of London and organised by the University of Liverpool, the Manchester Metropolitan University and the IUCN Antelope Specialist Group. This meeting aimed to clarify current trends in global antelope biodiversity, understand what drives the major threat processes and highlight conservation priorities. The topics addressed included turning habitat loss into conservation-friendly land use, how antelope-livestock interactions affect resource competition and disease transmission, and the usefulness of sport hunting, game ranching and reintroductions as tools in conservation. Anja reported that an over-riding topic mentioned many times was that of large wild spaces and the need to conserve savannah ecosystems, especially due to additional problems caused by global climate change. There was also talk of 'dropping fences' to create big landscapes (conservancies).

c) Canada: Cheetah Conservation Fund Canada (CCFC)

The CCF Canada board reorganisation continued during this period and included the election of two new directors: Pat Bumstead (International Society for Endangered Cats Canada), and Evlyn Anderson (Certified General Accountants Association). In its initial steps, CCFC has launched a new blog and a

Facebook page, while continuing to promote online donations through CanadaHelps.org. The CCFC board is in the process of identifying potential new directors and development opportunities.

d) Netherlands: SPOTS Foundation

Prior to starting her US Spring tour, Marker made a brief stop in Holland, where CCF's fundraising partner, the SPOTS Foundation, had a full schedule of meetings, a lecture at Wageningen University, two lectures at the Dutch headquarters of the World Wildlife Fund, and CCF's participation in the Animal Event, an annual celebration held at Beekse Bergen Safaripark, another of our partner zoos. At the event, the Friends Safaripark Beekse Bergen en Dierenrijk Europa sang a cheetah song especially written for Dr. Marker and presented her with a EUR7,500 donation to support CCF's work.

e) France: AMIFELINS

Thanks to the help of CCF supporters, AMIFELINS has translated into French various sections of the CCF web site, as well as newsletters and appeals, for a broader reach among French-speaking cheetah lovers.

CCF would like to thank Catherine Roy, Sally Sharpe and Danielle Beck for their involvement in creating AMIFELINS and wish them success as they move on to focus on their professional endeavours. We welcome as new Board members long-time friend and supporter Catherine Ebbs-Perin, who was elected Chair, and Claude-Isabelle Dunand as Secretary. Founding member Julie Wornan has remained on the Board as Treasurer. With the active involvement of other members such as Patrice Aubry, Brigitte Petraz and Martine Coret, AMIFELINS continues to help CCF enhance its presence in France and to plan new projects to help protect the cheetah in the wild through increased awareness.

f) Germany: Action Campaign for Endangered Species (ACES)

During a layover in Germany after her US Spring tour, Marker met with the head of ACES, Birgit Braun, who arranged a brief introductory meeting with Zoo Wilhelma in Stuttgart to discuss possible collaboration.

As part of its fundraising efforts, ACES registered CCF for an eco-friendly power campaign that generates 20 Euros for everyone who switches electric suppliers. ACES is in the process of enrolling German actor Hannes Jaenicke as the campaign spokesperson in 2012.

In September, ACES presented the CCF's Livestock Guarding Dog programme at a joint press conference with three other conservation organisations. The conference highlighted conservation issues and promoted a special conservation wall calendar for 2012. Revenues from the sales of this calendar will be donated to the four participating organisations. ACES was also chosen as one of the charities that will benefit from sales of the recently published photography book "Afrikas Süden" (from the Fotografeneditionen).

g) Italy: Associazione Ambiente, Storia e Natura (ASN)

A fundraiser organised by CCF's volunteer Elisabetta von Hoenning, and hosted by Pulse Effect & La Darsena travel agency, was held in downtown Milan in mid-February. Approximately 55 attendees learned about Namibia's geology from Dr. Omar Fragomeni, expert geologist and palaeontologist representing the travel association AIEA (Associazione Italiana Esperti d'Africa), while von Hoenning showed a film about CCF's activities and about her stay as volunteer at CCF in Namibia. The travel

agency was very satisfied with the evening's outcome and has agreed to organise other events with musicians and groups to entertain guests and further raise funds to benefit CCF.

Elisabetta is also in the process of organising a lecture in Milan to be held in mid-January. She has actively continued to translate CCF news for Save the Cheetah blog in Italian. In addition, she has been actively seeking to increase CCF's links with the European Parliament. In December, a page about CCF was put on the website of the Animal Welfare and Conservation Group of the European Parliament -- a success due to the visibility it offers at a European level.

B. PR and Marketing

1. Web Presence

CCF continues its efforts to enhance its presence in social networking web sites. The [Cheetah News blog](#) and [Twitter](#) continue to attract new followers. The CCF "fan" page on Facebook, started in April 2010 with 866 followers, reached 7,021 members on 31 December 2011 (more than double the 3,224 members at the end of December 2010). Web-based social networking also continues to spread with independently created pages on Facebook including two CCF alumni (volunteers) groups and five chapter pages, as well as one official and 11 independent Cause pages accepting donations for CCF and currently including 11,642 members --an increase of 1,986 since 31 December 2010.

2. Other PR Efforts

The CCF's web master receives frequent inquiries which are handled directly or forwarded to the appropriate staff. Inquiries are handled within 24 hours. During this period, 435 direct web-based inquiries were handled. These are emails sent by donors and/or supporters and include school projects, hunting or cheetah-health related issues, visiting CCF or volunteering, and issues with donations, among others.

Sony Online Entertainment LLC (SOE) announced in late June that *Wildlife Refuge*, a game playable on Facebook that would benefit CCF, will no longer be operational.

3. Advertising

Google Grants continues to donate free advertising through their popular search engine. During January-December 2011, CCF benefited from over \$70,000 worth of advertising via 5.8 million ad impressions that generated 135,786 clicks.

Ten new CCF videos (Chewbaaka: Run With The Wind, Africa One TV Segment, Emily's Cheetah Song, Run with the Wind: Chewbaaka, CCF's Annual Gala, CCF's International Education, Re-wilding continues, Hi-Fi release, Erindi, Run for the Cheetah promo and Portland Run) were posted on the CCF's YouTube.com channel during this period, and have been viewed over 8,500 times. Collectively, all 35 CCF videos on its YouTube channel have been viewed nearly 215,000 times since CCF created the account in August 2006. A Google Checkout button for donations is available to channel users. 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.

Figure 47 shows the monthly distribution of the 24,752 views of all CCF videos in 2011. Table 6 lists the 10 most viewed CCF videos during this period, with the Jeff Corwin video continuing to be the most popular, followed by this year's new video about the four female cheetahs re-wilded at the Erindi Private Game Reserve.



Figure 47: YouTube CCF channel monthly video views January-December 2011.

Video	Views ↓
1. Year-end message with Jeff Corwin - 2009	6,863
2. Female Cheetahs Release at Erindi Game Ranch	2,227
3. The Indianapolis Prize 2010: Dr. Laurie Marker	1,627
4. 2011 Run for the Cheetah this spring!	1,554
5. The Cheetah Conservation Fund's Re-Wilding Conti...	1,328
6. 2011 Run for the Cheetah - Portland, Oregon	1,271
7. Welcome to the Cheetah Conservation Fund	1,014
8. Run with the Wind: Chewbaaka	856
9. Jeff Corwin Introduces CCF	754
10. A Message From the Cheetah Conservation Fund	646

Table 6: CCF's 10 most-viewed videos on YouTube during 2011.

4. Media

During this reporting period, CCF issued 18 press releases (Table 7), including the announcement the passing of CCF's cheetah ambassador Chewbaaka and five in connection with Dr. Marker's US fall tour. CCF also issued two statements on the illegal pet trade and India's cheetah re-introduction.

Table 7. Press Releases Issued between 1 Jan and 31 December 2011

Date	Title	Distribution
7-Mar-11	Otjiwarongo Learners Arts Project	Africa
11-Mar-11	CANAM Launches Conservation Book	Namibia
17-Mar-11	International Conservationists Attend Course at CCF	Africa
4-Apr-11	World Famous Cheetah Dies	Worldwide

8-Apr-11	Namibian Cub Scouts Visit CCF	Africa
11-Apr-11	CCF to hold Jubatus Kids Holiday Camp	Namibia
23-Apr-11	The CCF 2011 Celebration of Speed and Elegance scheduled for 15 July at the Windhoek Country Club.	Namibia
28-Apr-11	CCF to Hold Second Jubatus Kids Holiday Camp	Namibia
17-May-11	Over 50 kids attended CCF's Jubatus Holiday Camps	Africa
4-Jul-11	International Conservationists Being Trained at CCF	Africa
17-Jul-11	CCF Honours Ambassador Cheetah at 13th Annual Gala	Africa
20-Jul-11	Dr. Laurie Marker comments on illegal cheetah pet trade (Statement)	Worldwide
22-Sep-11	CCF Statement on Reintroduction of Cheetahs in India (Statement)	Worldwide
7-Nov-11	Reducing Predator Conflict During Calving Season	Africa
3-Dec-11	The Cheetah Conservation Fund Declares 4 December as International Cheetah Day	Worldwide
Various 2011	Leading African Wildlife Conservationist Available For Interviews During International Tour	New York
Various 2011	Leading African Wildlife Conservationist Available For Interviews During International Tour	California
Various 2011	Leading African Wildlife Conservationist Available For Interviews During International Tour	DC area
Various 2011	Leading African Wildlife Conservationist Available For Interviews During International Tour	Houston, TX
Various 2011	Leading African Wildlife Conservationist Available For Interviews During International Tour	Atlanta, GA

Media Inquiries and Interviews

CCF staff handled 124 media and PR inquiries (compared to 100 in 2010). These inquiries included 64 print (magazines/newspapers), 39 electronic (radio/ film/TV) and 12 electronic media (web), which resulted in 63 published/aired or scheduled for publication/airing. Highlights include:

- Eight ads or advertorials including travel publications such as Explore Namibia, AA Traveller and Travel Namibia, a film directory, and outdoor advertising for "unsold media space" from Continental Outdoor Media.
- 14 image requests published or awaiting publication, including BBC Wildlife and National Geographic Hungary, Genome Research Journal, and Beeld (South Africa). CCF also provided visuals and data for the educational displays at Busch Gardens Tampa's Cheetah Attraction and Little Rock Zoo in Arkansas.
- 37 published or scheduled print media articles, including Christian Science Monitor, Readers' Digest, Africa Geographic, National Geographic Kids, Business Spotlight (Germany), O, The Oprah Magazine, Hello Magazine (UK and Bulgaria), Air Namibia's in-flight magazine Flamingo, Cat Fancy Annual Issue, as well as numerous interviews in connection with the Busch Gardens Tampa's Cheetah Attraction opening and the first anniversary of the Dallas Zoo's Giants of the Savannah exhibit.
- Five web media articles including WildlifeExtra (UK), Encyclopedia of the Earth, Global Times Magazine and StudioCityPatch.
- Three radio interviews, including a Voice of America interview at the Cosmos Club in Washington, DC during Marker's spring US tour. The interview aired in June 2011 to 123 million listeners and viewers through 44 language services
- CCF Namibia handled a total of nine film crews in 2011 that resulted in five aired TV documentaries or segments: Dogs 101 on Animal Planet and NatGeo (US, UK), "Laurie Marker: Miss Cheetah" on TV

Animaux (France), "Open File" --a co-production of NBC TV Namibia and DeutscheWelle aired in Namibia and awaits airing in Germany in 2012, segments on SABC's 50/50 Environmental Magazine Programme and on One Africa TV's Environment and Agriculture (South Africa). Four documentaries are in production stages and scheduled to air in 2012, including a 20-segment on the cheetah as part of Darwin Goes Wild, a New Year Day's special scheduled to air in Japan on 1 January . The documentary iPredator, filmed at CCF in 2010, aired in January 2011 on Animal Planet and National Geographic Channel. In addition, the series Animal Kingdom (ITV TV – UK), hosted by British veterinarian Steve Leonard featured the progress of four of CCF's re-wilded cheetahs at Namibia's Erindi Game Reserve.

Other CCF and/or Cheetah-related Coverage

CCF staff monitors media only through Google's free News Alerts service. During this period, Google reported 191 articles or electronic media items in connection with CCF or its projects. All but one (BBC Nature videos) mentioned CCF and/or Dr. Laurie Marker. 121 articles were the result of CCF's pro-active media outreach, such as press releases (28), direct interviews (52), and Dr. Marker's tour and events coverage (42). The 2011 Indianapolis Prize nomination announcement generated four articles mentioning Dr. Marker.

The remaining 65 articles were unsolicited and in great part generated by volunteers and staff (15), partners and supporters (29), visitors (3), or quoting information from the CCF web site. For full listing and details see **Error! Reference source not found.**

Finally, efforts by PR agencies representing Busch Gardens Tampa in connection with the opening of its Cheetah Attraction in May (attended by Dr. Laurie Marker) resulted in numerous articles and TV appearances by Busch's representatives who mentioned CCF whenever possible. Although CCF staff is unable to track all generated media, it is worth noting that some of the TV appearances included The Tonight Show and NBC News.

5. Book Collaborations

In January, CCF self-published the book [CCF 2010 Highlights](#) for internet sales. In addition, CCF staff worked on 23 requests for collaboration in various books (**Error! Reference source not found.**), including forewords, review and image requests. Five of these books featuring CCF were published during this period, including *In the Company of Cheetahs* by Earthwatch volunteer Sharon Neil, describing her experience as a volunteer at CCF -- with a foreword by Dr. Laurie Marker. Three others, *Eco Dog*, *Careers with Dogs*, and *Animals, the environment and people* feature CCF's livestock and scat-detection dogs.

Frenemies for Life, a book published by the Columbus Zoo in March 2010 featuring CCF's Livestock Guarding Dog Programme, reached #1 on Amazon.com's Best Selling List of Books for Children in three separate categories this year, with rave reviews from teachers, librarians, and kids.

VIII. PLANNED ACTIVITIES: JANUARY-JUNE 2012

In line with CCF's Mission Statement, our Goals for 2012 are as follows:

- *Continue long-term scientific research on cheetah health, reproduction, genetics, ecology and species survival;*
- *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;*
- *Conduct conservation education programs for local villagers, ranchers and school children;*
- *Continue fundraising to maintain programs.*

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

A. Research

- Continue with tag-and-release programme and biomedical sampling on both, as well as research into population dynamics and cheetah densities.
- Continue with cheetah relocation research, including the use of CCF's Bellebenno farm for first stage of reintroductions. Consulting on reintroductions of cheetah in Zambia and India.
- Continue to develop CCF's genetics lab to extract DNA from scat and work with collaborators throughout the cheetah's range.
- Continue to use trained scat-sniffing dogs for scat collection.
- 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 2010 International Cheetah Studbook and begin working on the 2011 International Studbook.

B. Conservation

- Continue implementing strategies planned at the 2007 eastern and southern African strategic planning meetings with partner organisations.
- Continue working with the Large Carnivore Management Association (LCMAN).
- Help with coordination of a Namibian National Cheetah Workshop.
- Continue working with farmers on cheetah-related issues and reducing conflict with cheetahs.
- 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 and industrial shows.
- Continue to assist other cheetah-range countries with their cheetah programmes, including working with India and Zambia on their planned re-introduction programmes.
- Continue communications in Angola, Zambia, Mozambique and other North and West African countries on cheetah programmes, as well as collaborating with colleagues in Kenya and Botswana.
- Continue to monitor rhinos on the CCF Rhino Reserve.
- Continue Model Farm operations and use farm for training programmes as well as a profit making centre.

C. 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.
- Host high school students and university students from various international travelling schools for a number of days when they visit Namibia.
- Host the Earth Expeditions in cooperation with the Cincinnati Zoo.
- Continue with student internships in co-operation with Polytechnic of Namibia, teacher training colleges, the University of Namibia, the Oregon's Global Graduate Program, 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.
- Provide training to CCF's professional staff.

D. Fundraising

- CCF Executive Director to travel to the US and Europe for fundraising and lectures.
- Continue developing CCF USA, CCF UK and CCF Canada, as well as international fundraising arms in Germany, France, Holland, Italy and Japan.
- Begin an endowment fund for CCF.
- Organise CCF Namibia's annual fundraising dinner for July 2012.
- Continue to host national and international journalists and film crews.
- Increase local sponsorship opportunities.
- Continue to develop eco-tourism at CCF through marketing: Bellebenno Safaris, Cheetah Safaris, Little Serengeti, Cheetah Runs, and the Babson Guest House.
- Continue planning the development of a high-end tourism tented camp at CCF.

IX. APPENDIX III: Overall Media Coverage (source: Google News Alerts).

Source	Date	Title	Publication	Country	Mention
Awards	3-Nov-11	Rewilding the South China Tiger - MarketWatch	<i>MarketWatch</i>	USA	YES
Awards	18-Nov-11	Nominees Announced for the 2012 Indianapolis Prize -...	<i>MarketWatch</i>	USA	YES
Awards	18-Nov-11	Nominees for the Indianapolis Prize	<i>Indianapolis Star</i>	Indiana, USA	YES
Awards	18-Nov-11	Nominees Announced for the 2012 Indianapolis Prize Leading ...	<i>EnviroLib</i>	Web	YES
Board	15-Nov-11	Woman's Love For Animals Aids Indianapolis	<i>The Indy Channel - ABC RTV 6</i>	Indiana, USA	NO
Board	23-Nov-11	Women World Car of the Year	<i>3D Car Shows</i>	Web	YES
Chapter	1-Jan-11	CCF's 20 years	<i>Bare Essentials Mag</i>	Australia	YES
Chapter	1-Jan-11	Helping the Cheetah Fight Extinction	<i>O, The Oprah Magazine</i>	USA	YES
Chapter	18-Jan-11	Shepherd Dogs Save Cheetahs	<i>Corriere della Sera</i>	Italy	YES
Chapter	14-Mar-11	Out of Springfield, 'back to the wild life' - Entertainment ...	<i>Delaware County Daily Times</i>	Pennsylvania, USA	YES
Chapter	24-Mar-11	Spring Spectacular to be held at Moorpark College zoo	<i>Ventura County Star</i>	California, USA	YES
Chapter	4-Apr-11	Tribute to Chewbaaka	<i>Bare Essentials Mag</i>	Australia	YES
Chapter	10-Apr-11	Run for the Cheetah Chicago	<i>Channel 25</i>	Chicago, IL, USA	YES
Chapter	23-Apr-11	Run for the Cheetah 5K	<i>K-Hits 104.3 Radio</i>	Illinois, USA	YES
Chapter	1-May-11	Run For The Cheetah Portland radio interview	<i>NewsRadio 750 KXL</i>	Oregon, USA	YES
Chapter	24-Jul-11	Operation Wild Child	<i>Wildlife Warriors</i>	Web	YES
Chapter	1-Aug-11	Pollyanna Pickering becomes Global Ambassador for Wildlife Warriors	<i>Artist's web page</i>	Web	YES
Chapter	7-Sep-11	Wildlife Warriors PSA	<i>Bare Essentials Mag</i>	Australia	YES
Chapter	28-Sep-11	CCF's Livestock Guarding Dog	<i>Bare Essentials Mag</i>	Australia	YES
Chapter	8-Oct-11	Glendale Community College : View all GCC News : Cheetah ...	<i>Glendale Community College Events</i>	California, USA	YES
Chapter	1-Nov-11	School visits to CCF: Amazing Kids	<i>Bare Essentials Mag</i>	Australia	YES
direct	1-Jan-11	Cheetah Conservation: Dogs Helping Cats	<i>National Geographic Kids</i>	USA	YES
direct	25-Jan-11	iPredator: Cheetah	<i>Animal Planet TV and NatGeo</i>	USA & UK	YES
direct	1-Feb-11	Africa and its Animals	<i>FACE Magazine</i>	USA	YES
direct	1-Feb-11	LSGD report we commissioned from the University of Oxford in the UK	<i>RSPCA International/Oxford University</i>	UK	YES
direct	1-Feb-11	On the Catwalk	<i>Wiltshire View</i>	UK	YES
direct	1-Feb-11	CCF spearheads eco-tourism -	<i>Prime Focus Magazine</i>	Namibia	YES
direct	3-Feb-11	Eine visuelle Reise durch Afrikas Süden (03.2.2011, Tourismus>Freizeit)	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
direct	14-Feb-11	Using a wood chipper to save cheetahs, Africa's most endangered big cats	<i>Christian Science Monitor</i>	USA	YES
direct	24-Feb-11	Ohio author brings playful characters to reading event	<i>Dayton Daily News</i>	Ohio, USA	YES
direct	1-Mar-11	Article on education: sustainable studies at CCF. Focus education for a generation of wildlife guardians!	<i>Bare Essentials Mag</i>	Australia	YES
direct	1-Mar-11	Ágaprítóval a gepárdok védelmében	<i>National Geographic Magazine</i>	Hungary	YES

direct	7-Mar-11	Women who have made a difference in science for World Women's Day	<i>Encyclopedia of the Earth</i>	Web	YES
direct	1-Apr-11	Geparden	<i>Geliebe Katze</i>	Germany	YES
direct	1-Apr-11	Bestechung zwecklos (Return of Herding Dogs)	<i>Partner Hund</i>	Germany	YES
direct	4-Apr-11	"Namibia to help revive India's extinct cheetah population"	<i>The Namibian</i>	Namibia	YES
direct	11-Apr-11	Namibia to help revive India's extinct cheetah population	<i>The Namibian</i>	Namibia	YES
direct	20-Apr-11	Article: Saving the Cheetah, an approach worth study; A species worth saving	<i>Integrity Commons Magazine</i>	USA	YES
direct	1-May-11	Cheetahs: Built for Speed.	<i>National Geographic Kids Magazine</i>	UK/USA	YES
direct	11-May-11	That's a good girl	<i>Gulf Times</i>	UAE	YES
Tour	28-May-11	Lone Star Adventure: Savanna Anniversary	<i>FOX DFW TV</i>	Dallas, TX, USA	YES
direct	1-Jun-11	The Cheetah Girl	<i>Rosebud Magazine</i>	USA	YES
direct	1-Jun-11	Special Namibia Issue	<i>Africa Geographic</i>	Africa	YES
direct	1-Jun-11	Chewbaaka Tribute	<i>BBC Wildlife Magazine</i>	UK	YES
direct	1-Jun-11	Big Cats Behaving Badly	<i>Flipside Magazine</i>	UK	YES
direct	1-Jun-11	Interview Corner: Dr. Laurie Marker	<i>Global Times Magazine</i>	Web	YES
direct	1-Jun-11	Big Cat Keeper	<i>Reader's Digest</i>	USA	YES
direct	13-Jun-11	US Woman Fights to Save Cheetahs	<i>Voice of America</i>	Worldwide	YES
direct	1-Jul-11	My Working Life: Laurie Marker	<i>Business Spotlight</i>	Germany	YES
direct	15-Jul-11	Interview with Laurie Marker with host Israel "Kazembire" Zemburuka	<i>NBC TV</i>	Namibia	YES
direct	1-Aug-11	Interview and image for Q&A section	<i>AA Traveller</i>	Namibia	YES
direct	1-Aug-11	Cheetah Facts and Figures	<i>Nose-to-Toes Magazine</i>	Washington, USA	YES
direct	1-Aug-11	„Wir fördern nationalen Stolz“ (01.8.2011, Nachrichten>Lokales)	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
direct	4-Aug-11	Auf Touristen-Routen durch den Nordwesten Namibias (04.8.2011, Tourismus>Reiseberichte)	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
direct	7-Aug-11	Hotspots for Undiscovered Species	<i>Wildlife Extra</i>	Web	YES
direct	15-Aug-11	The Woman Whose Dream Helped Cheetahs	<i>HELLO Magazine Bulgaria</i>	Bulgaria	YES
direct	15-Aug-11	Digital Gene Expression for Non-model Organisms	<i>Genome Research Journal</i>	USA	YES
direct	15-Aug-11	Dr. Laurie Marker - The woman whose dream helped cheetahs in their race against extinction	<i>Hello Magazine</i>	UK	YES
direct	1-Sep-11	Asia's Last Big Cats	<i>Cat Fancy Magazine</i>	USA	YES
direct	1-Sep-11	The World of Cheetahs at the Waterberg (in German)	<i>Allgemeine Zeitung Travel Magazine</i>	Namibia	YES
direct	28-Sep-11	http://news.mongabay.com/2011/0927-szotek_wcn_interview.html	<i>Mongabay</i>	Web	YES
direct	17-Oct-11	The Power of 1: Inspiring People Making a Difference - Reader's ...	<i>Readers' Digest</i>	USA	YES
direct	20-Oct-11	TIMELINE: Namibia's Checkered History Of Conservation : NPR	<i>NPR</i>	USA	YES
direct	27-Oct-11	Charity Spotlight: Georgetown Wild Kingdom	<i>Washington Life Magazine</i>	DC, USA	YES
direct	1-Nov-11	Soccer for Animals	<i>FACE Magazine</i>	USA	YES
direct	2-Nov-11	Cheetah Conservation in Action World Footprints Travel Radio	<i>World Footprints Travel Radio</i>	Web	YES
direct	3-Nov-11	Cheetah Conservation Fund World Footprints Travel Radio	<i>WorldFootprints.com</i>	Web	YES

direct	5-Nov-11	CCF segment for Dogs 101 on Animal Planet	<i>Animal Planet TV</i>	USA	YES
direct	15-Nov-11	<u>Interview with Laurie Marker</u>	<i>World Footprints Media</i>	US	YES
direct	22-Nov-11	Namibiërhelppomjagluiperds teruginIndië te kry	<i>Media24</i>	South Africa	YES
direct	5-Dec-11	<u>Saving Big Cats</u>	<i>Izilwane</i>	Web	YES
direct	18-Dec-11	Open File	<i>NBC Namibia /Deutsche Welle</i>	Namibia	YES
direct	19-Dec-11	<u>Miss Cheetah</u>	<i>Animaux TV</i>	France	YES
direct	10-Jan-11	<u>Q&A World's Fastest Cat on Its Ninth Life</u>	<i>Inter Press Service</i>	Worldwide	YES
Partnership	21-Apr-11	<u>Puppet power at the Philadelphia Zoo</u>	<i>Delaware County Daily Times</i>	Pennsylvania, USA	YES
Partnership	10-May-11	<u>Tonight Show with Jay Leno</u>	<i>NBC</i>	USA	YES
Partnership	10-May-11	<u>Julie Scardina & Animals, Part 1 (5/10/11)</u>	<i>The Tonight Show - NBC</i>	USA	YES
Partnership	3-Jun-11	<u>Animal Planet commemorates World Environment Day with special programming line-up</u>	<i>Afaqs</i>	Web	YES
Partnership	8-Jun-11	<u>Hochgeschwindigkeits- und Naturerlebnisse mit Geparden</u>	<i>Reisemesse.de</i>	Germany	YES
Partnership	10-Jun-11	<u>World's Cheetah Population In Danger - WPIX</u>	<i>WPIX</i>	Florida, USA	YES
Partnership	22-Jun-11	<u>Arthur Frommer: Volunteers using vacations to assist scientists</u>	<i>The Toronto Star</i>	Canada	YES
Partnership	30-Jun-11	<u>SeaWorld and Busch Gardens Grant More Than \$1 Million to Protect ...</u>	<i>PR Newswire</i>	World	YES
Partnership	3-Jul-11	<u>BCF Technology Ltd – BCF work with Cheetah Conservation Fund – June '11</u>	<i>BCF Technologies</i>	UK	YES
Partnership	9-Jul-11	<u>Adorable cheetah cub visits Studio 1A</u>	<i>MSNBC</i>	USA	YES
Partnership	11-Jul-11	<u>Cheetah Hunt is on the prowl at Busch Gardens Tampa Bay</u>	<i>BestofOrlando.com</i>	Florida, USA	YES
Partnership	18-Jul-11	<u>Keeper at wildlife park says cheetah is not dangerous- just hormonal</u>	<i>News Shopper</i>	UK	YES
Partnership	28-Jul-11	<u>Cheetah Hunt Opens at Busch Gardens</u>	<i>Miami Herald Travel</i>	Florida, USA	YES
Partnership	28-Jul-11	<u>Cheetah Hunt Opens at Busch Gardens</u>	<i>PR Newswire</i>	World	YES
Partnership	28-Jul-11	<u>Cheetah Hunt Opens at Busch Gardens - Travel - MiamiHerald.com</u>	<i>Miami Herald</i>	Florida, USA	YES
Partnership	3-Aug-11	<u>LEADING QUESTIONS: Zoo's top dog aims for inspiration</u>	<i>Indianapolis Business Journal</i>	Indiana, USA	YES
Partnership	10-Aug-11	<u>C'est Si Bon Hotel Otjiwarongo Namibia</u>	<i>The Cardboard Box</i>	Namibia	YES
Partnership	19-Aug-11	<u>Helping Older Cheetahs Become Moms.</u>	<i>Smithsonian Science Blog</i>	USA	NO
Partnership	23-Aug-11	<u>New genomic techniques shed light on how cheetahs get their spots ...</u>	<i>HudsonAlpha Institute for Biotechnology</i>	USA	YES
Partnership	1-Sep-11	<u>Five presidents sign a treaty to establish the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA). Peace Parks Foundation.</u>	<i>ICCF</i>	USA	NO
Partnership	8-Sep-11	<u>Discovery Communications Employees to Help Nonprofits in Second ...</u>	<i>Justmeans</i>	Newswire	YES
Partnership	8-Sep-11	<u>Discovery Communications Employees To ... : Discovery ...</u>	<i>Discovery.com</i>	Web	YES
Partnership	10-Nov-11	<u>Business Helps in Cheetah Preservation</u>	<i>Windhoek Observer</i>	Namibia	YES
Partnership	11-Nov-11	<u>CCF benefits from locally produced nitrogen</u>	<i>Namibia Economist</i>	Namibia	YES
Partnership	23-Jun-11	<u>Contributing to Wild Cheetah Conservation Taronga Conservation ...</u>	<i>Taronga Zoo</i>	Australia	YES
Partnership	11-Jul-11	<u>Corks For Conservation at Binder Park Zoo in Battle Creek will ...</u>	<i>Kalamazoo Gazette</i>	Michigan, USA	YES
Partnership	11-Jul-11	<u>Corks For Conservation at Binder Park Zoo in</u>	<i>Mlive.com</i>	Web	YES

<u>Battle Creek...</u>					
Partnership	11-Jul-11	<u>Corks For Conservation at Binder Park Zoo in Battle Creek will ...</u>	<i>Kalamazoo Gazette - MLive.com</i>	Michigan, USA	YES
Partnership	3-Nov-11	<u>Rewilding the South China Tiger</u>	<i>MarketWatch</i>	Web	YES
Press Release	25-Feb-11	<u>At Conni's Kindergarten in Grootfontein's quite a lot going (in German)</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Press Release	8-Mar-11	<u>Otji Art Project</u>	<i>Africa Geographic</i>	South Africa	YES
Press Release	5-Apr-11	<u>Koedoe-konfrontasie eis bekende jagluiperd</u>	<i>Beeld</i>	South Africa	YES
Press Release	7-Apr-11	<u>World-famous cheetah dies</u>	<i>The Namibian</i>	Namibia	YES
Press Release	12-Apr-11	<u>Pfadfinder informieren sich beim CCF über Gepardenschutz(12.4.2011, Tourismus>Branche)</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Press Release	14-Apr-11	<u>Namibian Cub Scouts visit CCF</u>	<i>The Namibian</i>	Namibia	YES
Press Release	15-Apr-11	<u>Children to learn about the importance of predators</u>	<i>Namibia Economist</i>	Namibia	YES
Press Release	28-Apr-11	<u>Protected areas vital for future generations</u>	<i>The Namibian</i>	Namibia	YES
Press Release	1-May-11	<u>Chewbaaka Farewell</u>	<i>Travel Namibia</i>	Namibia	Yes
Press Release	17-May-11	<u>FNB unterstützt Feriencamp (17.5.2011, Tourismus>Branche)</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Press Release	19-May-11	<u>CCF gives enviro education to over 50 children</u>	<i>The Namibian</i>	Namibia	YES
Press Release	19-May-11	<u>CCF gives enviro education to over 50 children</u>	<i>The Namibian</i>	Namibia	YES
Press Release	19-May-11	<u>CCF gives enviro education to over 50 children</u>	<i>The Namibian</i>	Namibia	YES
Press Release	1-Jun-11	<u>Loss of a Namibian Icon - A tribute to Chewbaaka</u>	<i>Flamingo - Air Namibia In-flight Mag</i>	Namibia	YES
Press Release	8-Jun-11	<u>Cheetah owners club would increase smuggling, expert says</u>	<i>The National</i>	Saudi Arabia	YES
Press Release	8-Jul-11	<u>Biologists trained in cheetah conservation</u>	<i>Namibia Economist</i>	Namibia	YES
Press Release	12-Jul-11	<u>Training course on preservation of the cheetah (in German)</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Press Release	16-Jul-11	<u>Cheetah advocate takes a second run at owners group</u>	<i>The National</i>	UAE	YES
Press Release	21-Jul-11	<u>CCF honours wildlife warriors</u>	<i>The Namibian</i>	Namibia	YES
Press Release	21-Jul-11	<u>Cheetah Ambassador honoured at 13th Annual Gala in Windhoek</u>	<i>Travel News Namibia</i>	Namibia	YES
Press Release	25-Jul-11	<u>Ya simanekwa molwuushitwe</u>	<i>The Namibian</i>	Namibia	YES
Press Release	26-Jul-11	<u>Naturschützer vom CCF ausgezeichnet</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Press Release	10-Oct-11	<u>African Cheetah Visits Laguna Home</u>	<i>Laguna Beach Patch</i>	California, USA	YES
Press Release	24-Oct-11	<u>Laurie Marker comments on Cheetah reintroduction into India</u>	<i>Wildlife Extra</i>	UK - Web	YES
Press Release	22-Nov-11	<u>CCF gibt Hinweise zur Reduzierung von Viehverlusten(22.11.2011, Tourismus>Branche)</u>	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
press release	1-Dec-11	International Cheetah Day.	<i>Informante</i>	Namibia	YES
Press Release	1-Dec-11	<u>Dr. Laurie Marker, renowned cheetah conservationist, nominated for the 2012 Indianapolis Prize</u>	<i>NTB Newsletter</i>	USA	YES

Press Release	2-Dec-11	HABER: Çitalar Angola'ya Geri Döndü haberi	<i>Haberler</i>	Turkey	YES
Press Release	6-Dec-11	Celebrating the Almighty Cheetah	<i>LocalKicks.com</i>	Web	YES
Press Release	13-Dec-11	CCF führt „Gepardentag“ ein (13.12.2011, Tourismus>Branche)	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Tour	30-Apr-11	Feel the Roar of African Cats	<i>New Jersey Newsroom</i>	USA	YES
Tour	1-May-11	The Scoop From Our Pet Community	<i>Houston Pet Talk</i>	Houston, TX, USA	YES
Tour	4-May-11	"The Race for the Future" Featuring Dr. Laurie Marker at the ...	<i>Oakland Local</i>	California, USA	YES
Tour	14-May-11	Dogs Saving Cats	<i>Studio City</i>	California, USA	YES
Tour	15-May-11	ECWG members, guests meet a cheetah	<i>Explorers Club</i>	USA	YES
Tour	16-May-11	Conservationist will speak today	<i>The Mountain Mail</i>	Colorado, USA	YES
Tour	20-May-11	A Night in Namibia with Dr. Laurie Marker - Event - CultureMap Houston	<i>Houston Culture Map</i>	Texas, USA	YES
Tour	24-May-11	CBS 11 Video Library « CBS Dallas / Fort Worth	<i>CBS 11 - Dallas</i>	Texas, USA	YES
Tour	24-May-11	Laurie Marker « CBS Dallas / Fort Worth	<i>CBS Dallas</i>	Texas, USA	YES
Tour	25-May-11	Other zoo news	<i>Omaha World-Herald</i>	Nebraska, USA	YES
Tour	30-May-11	Thanks offered for Marker support	<i>The Mountain Mail</i>	Colorado, USA	YES
Tour	3-Jun-11	Dallas Zoo celebrates 1-year-old exhibit with special guest	<i>Allen American</i>	Texas, USA	YES
Tour	3-Jun-11	Dallas Zoo celebrates 1-year-old exhibit with special guest	<i>Mckinney Messenger</i>	Texas, USA	YES
Tour	3-Jun-11	Dallas Zoo celebrates 1-year-old exhibit with special guest	<i>Star Local News</i>	Dallas, TX, USA	YES
Tour	3-Jun-11	Dallas Zoo celebrates 1-year-old exhibit with special guest	<i>The Plano Star</i>	Texas, USA	YES
Tour	30-Jul-11	The Livestock Guard Dogs Cheetah-Watch	<i>Cheetah-Watch</i>	Web	YES
Tour	2-Aug-11	Run for the Cheetah - Phoenix :: Events.org	<i>Events.org</i>	Web	YES
Tour	2-Aug-11	Open House for Dr. Laurie Marker	<i>KIOS 91.5 FM</i>	Nebraska, USA	YES
Tour	18-Aug-11	WCN Wildlife Conservation Network Events	<i>Wildlife Conservation Network (WCN)</i>	USA	YES
Tour	6-Oct-11	From IZ: Tara Continues to Fund Raise in DC	<i>The Izilwane Blog</i>	Web	YES
Tour	6-Oct-11	Splash! Animals » Blog » Announcing Share the Earth – Namibia	<i>SplashAnimals.org</i>	USA	YES
Tour	8-Oct-11	Rare Cat Sits for a Cameo Appearance	<i>Laguna Beach Independent</i>	California, USA	YES
Tour	28-Oct-11	Cheetahs: The Icon of Africa Washington Life Magazine	<i>Washington Life Magazine</i>	DC, USA	YES
Tour	1-Nov-11	Alexandria-based Cheetah Conservation Fund Strives to Save ...	www.localkicks.com	DC, USA	YES
Tour	11-Nov-11	Scene and Heard: Walk raises more than \$170000 for Parkinson's ...	<i>OregonLive.com</i>	Oregon, USA	YES
Tour	17-Nov-11	Busch Gardens Tampa's favorite ambassadors help with Great ...	<i>Behind The Thrills</i>	Web	YES
Tourism	15-Feb-11	Animals of Namibia	<i>PetaPrime</i>	Web	YES
Tourism	23-Jun-11	Babson House - Ker & Downey - Journeys of Distinction	<i>Ker Downey</i>	USA	YES
Tourism	31-Oct-11	Waldorf-Schüler besuchen den CHEETAH CONSERVATION FUND(31.10.2011, Nachrichten>Gesellschaft)	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Unsolicited	5-Jan-11	Online Only: Will politicians keep their New Year's...	<i>WebsterPost.com</i>	USA	YES
Unsolicited	5-Jan-11	Online Only: Will politicians keep their New Year's...	<i>MPNnow.com</i>	Web	YES

Unsolicited	6-Jan-11	What we saw last year on the conservation front	<i>The Namibian</i>	Namibia	YES
Unsolicited	8-Jan-11	„Wir fördern nationalen Stolz“	<i>Allgemeine Zeitung Namibia</i>	Namibia	YES
Unsolicited	24-Mar-11	NBL celebrates role models in various fields of endeavour	<i>The Namibian</i>	Namibia	YES
Unsolicited	11-May-11	U.S. Postal Service to Help Save Vanishing Species - San Diego ...	<i>CBS 8 San Diego</i>	California, USA	YES
Unsolicited	11-May-11	U.S. Postal Service to Help Save Vanishing Species	<i>SYS-CON Media</i>	Newswire	YES
Unsolicited	16-May-11	Animal Outreach Officer plays with a cheetah after a training ...	<i>Salem Radio News</i>	USA	YES
Unsolicited	8-Jun-11	Namibia Issue	<i>TRVL iPad magazine</i>	Worldwide	YES
Unsolicited	23-Jun-11	Video collection: Nature's record breakers	<i>BBC Nature</i>	Worldwide	NO
Unsolicited	2-Aug-11	U.S. Postal Service to Help Save Vanishing Species - San Diego ...	<i>CBS8</i>	California, USA	YES
Unsolicited	10-Aug-11	See Jane Do - Passion into Action - 5 Things You Can Do Today to ...	<i>SeeJaneDo.com</i>	Blog	YES
Unsolicited	20-Sep-11	U.S. Postal Service to Help Save Vanishing Species - San Diego ...	<i>PR Newswire</i>	World	YES
Unsolicited	21-Sep-11	Animals Get New Postal Stamp Care2 Healthy Living	<i>Care2.com</i>	Web	YES
Unsolicited	6-Oct-11	Eight Cheetah cubs a conservation success	<i>Associated Press (AP)</i>	World	YES
Unsolicited	14-Oct-11	Postal Service and WCS's Prospect Park Zoo Help Save Vanishing ...	<i>WCS Press Release</i>	USA	YES
Unsolicited	7-Nov-11	"Where in the World is Matt Lauer"	<i>NBC News - Today Show</i>	USA	NO
Unsolicited	26-Dec-11	Govt stops fastest animal in tracks!	<i>Daily Pioneer</i>	USA	YES
Vol/Staff	25-Jan-11	Amy Dickman - Expert National Geographic Expeditions	<i>National Geographic Expeditions</i>	Web	YES
Vol/Staff	8-Jan-11	Sat. Ex: Photographer hopes exhibit promotes awareness for cheetahs	<i>FayObserver.com</i>	No. Carolina, USA	YES
Vol/Staff	21-Apr-11	Cheetahs have a friend in Janet Waggoner	<i>The Lake Oswego Review</i>	Oregon, USA	YES
Vol/Staff	11-Jul-11	Environmental conservation Oxford University Department for ...	<i>Oxford University</i>	UK	YES
Vol/Staff	10-Aug-11	Namibia, Land of Dryness and Thorns - Cheetah Conservation Fund ...	<i>Travelpod.com</i>	Blog	YES
Vol/Staff	10-Aug-11	Cheetah Conservation Fund Photos: Pictures of Cheetah Conservation ...	<i>Travelpod.com</i>	Blog	YES
Vol/Staff	10-Aug-11	Animal carer learns about wild cats on Africa trip	<i>NW Evening Mail</i>	UK	YES
Vol/Staff	23-Aug-11	August is the Windy Month - Cheetah Conservation Fund, Namibia ...	<i>Travelpod.com</i>	Blog	YES
Vol/Staff	8-Sep-11	Spring has Sprung! - Cheetah Conservation Fund, Namibia Travel ...	<i>Travelpod.com</i>	Blog	YES
Vol/Staff	7-Oct-11	Millie Kerr: Namibia's Rewilding Efforts Give Hope to Orphaned Cheetahs	<i>The Atlantic</i>	USA	YES
Vol/Staff	18-Oct-11	Illuminating Africa's most obscure cat	<i>Mongabay.com</i>	Web	YES
Vol/Staff	13-Nov-11	Villanova University Recognized as a Top Producer of US Fulbright ...	<i>Media Newswire</i>	Web	YES
Vol/Staff	21-Dec-11	The cheetah and its race for survival	<i>The European Parliament's Intergroup on the Welfare and Conservation of Animals</i>	Web	YES