



2013 Year-End Progress Report

Reporting Period
JANUARY THROUGH DECEMBER 2013

By
Dr. Laurie Marker
Executive Director
Cheetah Conservation Fund
P.O. Box 1755
Otjiwarongo
Phone: 067 306225
Fax: 067 306247
Email: cheetah@iway.na

TABLE OF CONTENTS

TABLE OF CONTENTS	i
TABLE CONTENTS	iii
FIGURE CONTENTS	iii
I. EXECUTIVE SUMMARY	1
II. ORGANISATIONAL STRUCTURE	2
III. RESEARCH	2
A. Population Dynamics	2
B. Medical Exams	3
1. Annual Physical Exams 2013 – Captive Cheetahs.....	5
2. Health-Related Medical Exams – Captive Cheetahs.....	5
3. Wild Cheetah Exams	7
4. Dental Procedures of CCF’s Wild and Captive Cheetahs	7
5. Reintroduced Cheetah Exams	7
6. Deaths, Euthanasia, and Necropsies	7
7. Non-cheetah carnivore exams and necropsies	8
C. Health and Reproduction	8
1. Genome Resource Bank	8
D. Life Technologies Conservation Genetics Laboratory	8
1. Life Technologies Conservation Genetics Laboratory	8
2. Detection Dogs	11
E. Large Carnivore Research and Ecology	13
1. Cheetah Census	13
2. Wild Cheetah Releases and Monitoring	13
3. Cheetah Reintroduction	17
F. Ecosystem Research	22
1. Weather Monitoring.....	22
2. Game Monitoring and Prey Habitat Preferences	24
3. Fixed Point Photography	31
4. Bush Encroachment and Biodiversity	31
5. Swing Gates	32
6. CCF Rhino Reserve	32
7. Play Tree Research	33
8. Alien Invasive Species Removal	34
G. Scientific Publications and Papers Presented	34
IV. CONSERVATION	36
A. Livestock Guarding Dog Programme	36
1. Programme Overview	36
2. Breeding and Puppy Placements	38
3. Follow-Up on Prior Placements and Health Survey.....	39
4. Dog Health	41
5. Squamous Cell Carcinoma (SCC) Research	42
B. CCF Model Farm	42
1. Cattle	43
2. Small Stock.....	44
3. Hay Production	52
4. Wild Game Hunted on CCF Property	53

C.	Sustainable Economic Programmes Supporting Local Communities	53
1.	Certified Wildlife Friendly.....	53
2.	Bushblok	54
3.	Cheetah Country Initiatives	55
D.	Eco-Tourism	61
1.	Visitors to CCF.....	61
2.	Visitors Analysis	63
3.	Food Expenses	68
4.	Marketing	70
5.	Visitor Attractions.....	70
E.	Association and Conservancy Relationships	71
1.	Cheetah and Wild dog Conservation Planning Workshop	71
2.	Large Carnivore Management Association (LCMAN)	71
3.	Conservancy Association of Namibia (CANAM)	72
4.	Waterberg Conservancy	72
5.	Greater Waterberg Landscape	72
F.	Global Management Planning/Policy Involvement	73
1.	International Cheetah Studbook	73
2.	International Meetings	74
3.	Illegal Wildlife Trafficking	75
V.	EDUCATION	77
A.	Future Conservationists of Africa	78
1.	School Outreach	78
2.	Centre-based Programmes – Primary to High School	78
3.	Higher Education and In-Service Training	80
B.	Future Farmers of Africa	81
C.	Community Outreach.....	85
D.	CCF Staff Education.....	87
E.	Other Collaboration with Educational Institutions.....	87
F.	Volunteers and Interns	88
VI.	STRUCTURAL ACTIVITIES	91
A.	Namibian Facility Developments	91
1.	Existing Structural Projects and New Projects.....	91
2.	Automotives	91
B.	Staffing	92
VII.	ORGANISATIONAL ACTIVITIES	93
A.	Fundraising.....	93
1.	Namibia.....	93
2.	International Review	94
B.	PR, Marketing, and Media	101
1.	Social Media	101
2.	Cheetah.org Website.....	102
3.	Outreach Efforts	102
4.	Media.....	103
5.	Book Collaborations	107
II.	APPENDIX I: Media outreach.....	i
III.	APPENDIX II: Overall Media Coverage (source: Google News Alerts).....	iii

TABLE CONTENTS

Table 1. Summary of exams performed on wild and captive cheetahs between 1 Jan – 31 Dec-2013.	4
Table 2. Summary of cheetah necropsies performed between 1 Jan – 31 Dec 2013.....	8
Table 3. Population estimates (mean \pm lognormal confidence intervals) of common game species counted on the CCF Big Field for the period Jan-Dec 2013.	26
Table 4. Population (1,000 ha.) of the most common wildlife species observed on CCF’s circuits B for the period Jan–Dec 2013.....	27
Table 5. Actual numbers of animals counted, densities (animals per 1000ha) for the common game species in the.....	29
Table 6. Actual numbers of animals counted, extrapolated totals and densities (animals per 1000ha) for the five main game species in the Waterberg conservancy.....	30
Table 7. CCF's Livestock Guarding Dog Programm - Alive dogs to 31 December, 2013.....	36
Table 8. Intact livestock guarding dogs as of 31 December 2013.....	37
Table 9. Puppies born and type of placement. 1 Jan – 31 Dec-2013.....	38
Table 10. CCF Cattle and Livestock 1-Jan-2013 – 31-Dec-2013	43
Table 11. Boer Goat Births 1-Jan-13 – 31-Dec-13	45
Table 12. Damara sheep births 1-Jan – 31-Dec-13	46
Table 13. Dairy goat breeding and kidding chart 2013.....	47
Table 14. Dairy goat births 1-Jan – 31-Dec-2013	48
Table 15. Monthly milk production and allocation in kilograms. Jan-Dec 2013.....	49
Table 16. Monthly milk production per goat (kilos). January-December 2013.....	49
Table 17. Feed breakdown amounts 1 Jan-31 Dec-2013.....	51
Table 18. Numbers of game utilised in 2013 compared with totals from previous years.....	53
Table 19. Monthly block production (tonnes). Jan-Dec-2013	55
Table 20. Milk allocation per product during Jan-Dec-2013.....	57
Table 21. Chèvre and Feta cheese monthly production in kilograms. Jan-Dec-2013.....	57
Table 22. Production cost of Creamery products. Jan-Dec-2013	57
Table 23. Total cost, revenues and profit from Creamery sales. 1 Jan-30 Dec-2013	58
Table 24: Monthly eco-tourism income per activity. 1 January-31 December 2013	67
Table 25. Amount of meals served at CCF's Hot Spot, Jan-Dec-2013.....	68
Table 26. Cheetah Café sales. Jan-December 2013	71
Table 27. Namibian schools hosted by CCF during 2013	79
Table 28. Namibian higher-education groups visiting CCF during 2013.....	81
Table 29. International groups attending educational programmes at CCF, Jan-Jun 2013.....	87
Table 30. CCF Vehicle Fleet and Status	92
Table 31. <i>Huffington Post Blog Performance 2013</i>	102
Table 34. Press Releases Issued between January and December 2013.....	103

FIGURE CONTENTS

Figure 1. Scat dog Tiger wearing Ruffwear Swamp Cooler Vest donated by Pippa Francq and Allen Loyd.	12
Figure 2. Example search around the perimeter of a waterhole done by Finn, showing the difference in detail between the GPS collar (light blue) and new Garmin Foretrex 401 (dark blue).	12
Figure 3. Movements of female cheetah AJU 1629 (“Mom”) between 1 January and 6 February, 2013..	14
Figure 4. Movements of female cheetah AJU 1632 (“Toeless”) during January-February 2013.....	15
Figure 5. Movements of male cheetah AJU 1543 (Hifi) during January-June 2013.....	16

Figure 6. Movements of female cheetah AJU1576 between 1 Jan-4 Feb 2013.	18
Figure 7. Rainfall since 2005 showing the current below-average rainfall.....	23
Figure 8. Picnic Dam: 21 December 2013 and 26 December 2013	23
Figure 9. Monthly minimum and maximum temperatures for 2013.	24
Figure 10. Comparisons of distance density estimates for common game species on the CCF big field for 2012 – 2013, Jan–Dec period.	25
Figure 11. Common game distribution on the CCF circuit counts from Jan-Dec 2013.....	26
Figure 12. Abundance estimates (animals per 1000ha) of common wildlife species observed on circuit counts for farm Elandsvregde for the reporting period Jan–Dec 2013. Estimates were derived from distance sampling method.....	27
Figure 13. Population estimates (individuals per 1000 ha for game in the Bellebeno game camp for the period January to Dec 2013.	29
Figure 14. Density estimates (animals per 1000ha) for the five main species across the Waterberg Conservancy 1995-2013.....	31
Figure 15. Recent photo of rhino male and some warthogs taken by a remote Reconyx PC800 camera trap.....	33
Figure 16. Monthly milk production in kilos between 1 Jan – 31 Dec-2013.....	50
Figure 17. Certified Wildlife Friendly logo	54
Figure 18. Number of visitors to CCF per month, January-December 2013.....	63
Figure 19. Languages spoken by visitors in 2013.....	64
Figure 20. The number of visitors per country in 2013	64
Figure 21. Number of school visits January-December 2013.	65
Figure 22. Sources of visitors to CCF, January-December 2013.....	65
Figure 23. Tourism income comparison (Namibian \$), January-December 2012 & 2013.....	66
Figure 24. Sources of tourism income (Namibian \$), Jan-Dec-2013.....	67
Figure 25. Babson House income and number of guests (N\$ x 1000), January-December 2013	68
Figure 26. Overall categories of people served at the Hot Spot.....	69
Figure 27. Monthly amount of meals for Babson House guests. January-December 2013.	69
Figure 28. Preliminary 2012 Captive Cheetah Population by Region, 1661 (858.798.5) Cheetahs.....	73
Figure 29. Summary of illegal cheetah trafficking by geographic region. Jan-Dec 2013	76
Figure 30. Some of the villages visited in the Otjituu Conservancy.....	82
Figure 31. Typical view of Hereroland “grazing” - demonstrating our observation during the trip that there was almost no grass left.	83
Figure 32. The CCF stall at the Outjo Game Festival.	85

I. EXECUTIVE SUMMARY

2013 was filled with new initiatives geared towards the economic development of Namibian livestock farmers with the opening of CCF's Dancing Goat Creamery, the Chewbaaka Memorial Garden, and the CCF Apiary. These three programmes encourage businesses not commonly practised in Namibia to produce goat milk products, organic vegetables/greens, and honey. In support of these initiatives, CCF assisted with the launching of the Otji Farmers' Market in Otjiwarongo and is a founding member of the Namibian Wine Growers Association, established this year.

Economic development, integrated livestock and wildlife management, and habitat restoration are the prevalent needs identified through a survey conducted by CCF in December 2012 in the Greater Waterberg Landscape (GWL). The GWL is a group of custodians, managers, and owners that share a common vision for the long-term management and development of an area that covers some 1.77 million hectares around the Waterberg Plateau Park. The Landscape includes the eastern communal lands as well as CCF. Based on a survey conducted by CCF and presented to NAMPLACE, the UNDP programme supporting the GWL, CCF is proposing a series of programmes that involve education and capacity building. In addition, Bushblok, CCF's flagship project, received support from the Finland's Fund for Local Cooperation (FLC) that will make possible the creation of the proposed de-bushing enterprise in this region.

CCF's Livestock Guarding Dog (LGD) Programme was very active during this period with a record number of puppies placed on Namibian farms and a 2-year waiting list. This year, LGD programme expanded to a fourth country outside Namibia with the placement of four puppies in Tanzania through CCF's partner, the Ruaha Carnivore Project.

The Namibian Cheetah and Wild Dog Strategic Plan was drafted during this period. Internationally, our work to combat the illegal trafficking of cheetahs for the pet trade achieved a landmark when data collected by CCF contributed to the CITES Secretariat's resolution to conduct research on the illegal trafficking of cheetahs during the CITES Conference of the Parties 16 held in Bangkok in March. In addition, we visited the United Arab Emirates where a pressing need to reduce demand for cheetah pets and to train owners and veterinarians in the care of cheetahs became evident. In collaboration with various Emirati and international organisations, CCF plans to organise a workshop to address these issues and to train professionals in the collection of reproductive and genetic samples, as the specimens kept in captivity in the UAE are believed to be of great genetic value as they mostly originate in the Horn of Africa where cheetah populations are very small.

My North American spring and fall tours this year included 15 US states and Canada. During these tours I had the honour of giving a talk at this year's TEDx Portland that reached a live audience of 1000 guests and continues to be broadcasted online. My lecture was titled, "What if we lost the cheetah?"

Losing the cheetah is not an option. Our efforts to conserve the wild cheetah and improve livelihoods will continue through the second part of 2013 and beyond. Across Namibia and around the world, we must find the resources to continue establishing partnerships, expand our programmes, and explore new opportunities that will allow the cheetah to continue to exist. Without this magnificent predator the health of the eco-systems it inhabits will be irreparably damaged, as will be the lives of those who share their land with Africa's most endangered big cat. Time is running out...



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 was registered as a not-for-profit Namibian Section 21 Company. CCF's Namibian Board of Directors is comprised of leaders in the local community, businesses, 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 of professional staff 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 Bynadaar, totalling 46,000 hectares. CCF's Centre is located in prime cheetah habitat and a wildlife-friendly area, with many neighbouring farmers who believe in conservation ethics. This ensures a large prey population, which is important for the cheetah population and serves to provide a model for farmers to show that they can live harmoniously with cheetahs.

CCF is an active member of the Waterberg Conservancy, which abuts 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. CCF also sits on the Steering Committee of the Greater Waterberg Landscape, an area comprising 16,000 km² around the Plateau and in Hereroland. Nationally, CCF sits on the board of the Conservancy Association of Namibia (CANAM).

III. RESEARCH

During the first six months of 2013 CCF continued working towards achieving its research objectives and strengthening collaborative efforts. Research continued in overall health and genetics, censusing, reintroduction of cheetah, and ecosystem research.

A. Population Dynamics

As of December 31 2013, CCF has 45 resident captive cheetahs (20M, 25F), compared to 46 at the end of December 2012. Throughout the year, CCF received a total of eight cheetahs (4M, 4F) consisting of one adult female (AJU 1632), three female cubs (AJU 1640, AJU 1641 and AJU 1642), and four males (AJU 1442, AJU 1641, AJU 1462 and AJU 1463). Nine cheetahs left CCF, of which one male (AJU 1566) and two females (AJU 1340 and AJU 1642) died, one female (AJU 1563) escaped, and five females (AJU 1444, AJU 1632, 1510, 1511 and 1512) were reintroduced.

Wild-caught cheetah AJU 1632 (Athena), which had been soft released after a toe amputation from a severely injured pad presumably inflicted in a trap cage, was brought into captivity in March 2013. AJU 1632 was released into Erindi Private Game Reserve on 15 October 2013, where she currently resides.

AJU 1640 (Rainbow) arrived on 8 February 2013 at 3-4 months old. A farmer found the weak and debilitated cub on the side of the road and contacted CCF. Rainbow has since been rehabilitated with veterinary care and proper nutrition. She was housed with AJU 1641 and 1642 after being socialised to them.

AJU 1641 (Aurora) arrived on 12 March 2013 after Dr Marker retrieved her from a farmer who had tried to raise her during two weeks prior to calling CCF. She was in adequate condition although bloated from being overfed and her claws had been cut very short. As this cub was approximately the same age as AJU 1649 (Rainbow), they were successfully introduced to each other.

AJU 1642 (Stitch) arrived on 9 May 2013 at around 9 months old from Amani lodge. The lodge acquired her from a farmer who had her for an unknown period of time. She came to CCF with severe musculoskeletal abnormalities resulting from inadequate nutrition. While her condition initially improved due to proper care and pain management (see Health-Related Medical Exams – Captive Cheetahs), the abnormalities deteriorated with her growth and she was euthanized on 13 December 2013.

AJU 1442 (Saturn), AJU 1461 (D'Artagnan), AJU 1462 (Athos), and AJU 1463 (Porthos) had been on loan at Amani lodge since July 2008. Due to the financial burden of their care and the closing of the facility they were returned to CCF on 19 August 2013. The four cheetahs were all underweight but overall healthy.

AJU 1566 (Quasar) and AJU 1563 (Soraya) escaped from their enclosure on 28 June 2013. AJU 1566 was found injured on the day he escaped and died after surgery. AJU 1563 was seen on a camera trap the week of her escape and appeared to be coping well with freedom; she has not been sighted again since.

AJU 1340 (Misty) was humanely euthanized on 17 November 2013 after having been under medical surveillance for several months (see Health-Related Medical Exams – Captive Cheetahs).

AJU 1444 (Luna) and AJU 1632 (Athena) were released into Erindi Private Game Reserve. AJU 1510 (Jacomina), 1511 (Minja), and 1512 (Emma) were released on CCF land. See Cheetah for more detail on the releases.

B. Medical Exams

Each cheetah that is evaluated under anaesthesia by CCF, both captive and wild, is assessed for general health and fitness. The examinations follow standard protocols. Male examinations include semen collection; the semen is analysed and stored in the Genome Research Bank (GRB).

Between 1 January and 31 December 2013 CCF performed a total of 60 exams on 36 individuals, of which 31 were captive (16M, 15F), four wild (2M, 2F), and a female (AJU 1632) who underwent exams first as a wild cheetah and subsequently as a captive cheetah (Table 1).

Table 1. Summary of exams performed on wild and captive cheetahs between 1 Jan – 31 Dec-2013.

<u>AJU</u>	<u>Sex</u>	<u>Date of exam</u>	<u>Predator</u>	<u>Entry</u>	<u>Annual</u>	<u>EEJ</u>	<u>Dental</u>	<u>Medical</u>	<u>Detail</u>
1119	F	22-Jul-13			X		X		Root abscess drained and flushed on upper right premolar 4 (108)
1204	F	16-Apr-13			X		X		Heart murmur + root canal on upper L canine and premolar 4 (204, 208)
1238	M	03-Apr-13			X			X	Tail injury
1238	M	20-May-13						X	Digit assessment and amputation of digit 5 RH
1269	M	12-Apr-13			X				
1269	M	22-Jul-13					X		Bilateral maxillary root canals
1340	F	08-Oct-13			X		X		3 root canals and a filling
1442	M	21-Aug-13		X		X			Return to CCF from Amani lodge - no sperm due to poor body condition
1442	M	04-Dec-13				X			
1444	F	16-Jul-13			X				
1444	F	08-Oct-13					X		Root canals and collar placement - released to Erindi
1461	M	19-Aug-13		X					Capture at Amani lodge for return to CCF – no workup
1461	M	04-Dec-13			X	X		X	History of limping and skin lesion
1462	M	21-Aug-13		X		X			Return to CCF from Amani lodge - no sperm due to poor body condition
1462	M	06-Dec-13				X			
1463	M	21-Aug-13		X		X			Return to CCF from Amani lodge - no sperm due to poor body condition
1463	M	06-Dec-13				X			
1493	F	30-Jan-13			X			X	Eye exam and third eyelid flap
1493	F	07-Feb-13					X	X	Eye exam and third eyelid flap + Root canal upper right canine (104) + lower right premolar (407) removed
1493	F	20-Feb-13					X	X	Eye exam and third eyelid flap + Root canal lower left canine (304)
1493	F	15-Mar-13						X	Eye exam and conjunctival flap with third eyelid flap
1493	F	08-Apr-13						X	Eye exam post conjunctival flap
1493	F	22-Apr-13						X	Enucleation (right eye)
1510	F	12-Apr-13			X				
1510	F	05-Dec-13							Collar placement
1511	F	10-Apr-13			X				
1511	F	05-Dec-13							Collar placement
1512	F	09-Apr-13			X				
1512	F	05-Dec-13							Collar placement
1513	M	05-Feb-13			X	X			
1514	F	05-Mar-13			X				
1514	F	18-Apr-13					X		Root canal on upper left canine(103) and upper left premolar 4 (208)
1515	M	09-Feb-13			X	X			
1515	M	07-Mar-13					X		Root canal on all canines (104, 204, 304, 404)
1516	M	05-Feb-13			X	X			
1516	M	18-Apr-13				X	X	X	Root canal of #404. Follow up radiographs for right carpus problem
1517	F	05-Mar-13			X	X			
1518	M	09-Feb-13			X	X			
1518	M	07-Mar-13					X		Root canal on upper right canine (104)
1543	M	04-Jul-13	X						
1566	M	28-Jun-13						X	Evisceration due to warthog attack - Surgery with intestinal removal + end to end anastomosis. Died in recovery from circulatory collapse
1602	M	09-Oct-13						X	Sedated for FHV-1 wound treatment
1607	M	19-Feb-13			X	X			
1608	F	11-Apr-13			X				
1615	F	11-Apr-13			X				

1616	M	19-Feb-13		X	X	
1617	F	09-Apr-13		X	X	
1619	F	10-Apr-13		X		
1627	M	19-Feb-13		X	X	
1632	F	02-Mar-13	X			Collar removal
1632	F	07-Mar-13			X	Root canal on upper right canine and premolar 3 (104, 107)
1632	F	09-Oct-13		X		Collar placement - released to Erindi
1640	F	08-Feb-13	X			Abandoned by mother and found near Otjiwarongo
1641	F	13-Mar-13	X			Caught by farmer in Dordabis area
1642	F	15-May-13	X		X	Came from Amani lodge+ Radiographs for chronic HL and FL lameness
1642	F	13-Jun-13			X	Follow up radiographs for chronic HL and FL lameness
1643	M	30-Jun-13	X			Walked into empty cheetah pen
1643	M	04-Jul-13		X	X	Re-check carpal swelling - re-released at CCF airstrip
1642	F	27-Jul-13			X	Re-check radiographs of limbs
1642	F	13-Dec-13			X	Re-check - euthanasia

1. Annual Physical Exams 2013 – Captive Cheetahs

From January to December 2013 routine annual physical examinations were conducted on 25 (10M, 15F) of CCF's resident cheetahs (Table 1). The majority of the annual examinations were performed in April, but when possible annual examinations were scheduled when a medical procedure was required for other reasons.

The annual examinations follow a standard procedure and include weight, ocular and dental exam, kidney ultrasonography, measurements, and sample collection (blood, urine, faeces, urine, hair, semen and vaginal cytology, ectoparasites). If needed, vaccination boosters were administered with killed feline vaccines including rabies and Frontline was applied for ectoparasite prevention. Minor dental work was also carried out on the individuals that needed treatment.

Medical procedures are conducted under licensed CCF veterinarians. Dr Suzan Murray from the Smithsonian's National Zoo was invited to join the annual examinations held in April, while Dr. Betsy Fox joined the CCF veterinary team for the October procedures. Multiple combinations of anaesthetic drugs were used successfully with no adverse reactions. All cheetahs were found to be generally in good health. Visiting veterinarians are also invited to join the CCF team when procedures are scheduled during their visits. During 2013, CCF hosted four visiting veterinarians: Dr. Neil Walton, Dr. Zoltan Szabo, Dr. Eva Maria Greunz, and Dr. Joelle Hofmans

2. Health-Related Medical Exams – Captive Cheetahs

In 2013, CCF performed a total of 17 medical examinations on eight individual cheetahs (6M, 2F) (Table 1).

Resident male AJU 1238 (Josie) suffered a severe tail injury on the 3 April 2013 from fighting with the other cheetahs in his pen. He was anaesthetised and the extent of the wound was assessed. Tendons were exposed in two areas and radiographs revealed small bone fragments broken off of two damaged tail vertebrae in those areas. Wounds were cleaned and damaged tissue resected. On the 16 May he received an injury on the 5th digit of his right hind limb. Since the injury did not respond to a course of antibiotics and pain medication the digit was amputated on the 20 May 2013. Both wounds healed well.

Resident female AJU 1340 (Misty) was suffering from chronic renal failure since 2010. While she had episodes of loss of appetite on occasions her overall quality of life remained good. She was placed on ACE inhibitors to help support kidney function and received a dental work-up on 8 October 2013. She recovered well from the procedure and it seemed to facilitate her eating. In November she rapidly declined and showed no signs of improvement despite supportive care, including subcutaneous fluids and vitamins. She was euthanized on 17 November 2013 due to her age and the severity of the disease.

Resident male AJU 1516 (Darwin) had a chronic lameness on the right front leg since October 2011. He was anaesthetised for x-rays. Radiographs confirmed damage to growth plates of the long bones of the forearm (radius and ulna). This damage is thought to be the result of a nutritional deficiency (Rickets) that he suffered as a cub prior to his arrival at CCF. Following a flare up in October 2012 and initial tramadol trial, he had remained on a low dose meloxicam until March 2013. Meloxicam had to be resumed in April of 2013 as he suffered another flare up. On 18 April he was anaesthetised for a root canal and further radiographs. An intra-articular steroid (betamethasone) injection into the radio-carpal joint was performed to obtain a local effect. The articular injection has been quite successful and did not need to be repeated to date. He has been maintained on oral joint supplements.

Resident female AJU 1642 (Stitch) came to CCF from Amani Lodge on the 10 May 2013. Unfortunately, she had been on an all-meat diet which was lacking in necessary vitamins and minerals for normal bone growth and formation. The inadequate nutrition resulted in secondary nutritional hyperparathyroidism, also known as paper bone disease or metabolic bone disease. Upon her arrival she was very stiff in her hind limbs and not bearing weight on her left forelimb. On 15 May she was anaesthetised and radiographed which revealed numerous bone abnormalities. She had thin bones overall, evidence of an old fracture in the left humerus, which had healed at an abnormal angle, and severe osteoarthritis in her left shoulder. Her right shoulder had defects in the cartilage and both stifles had minor fractures.

Despite an initial improvement due to pain medication and appropriate diet, she continued to be unable to run even with the continued pain medication. Her condition declined as her growth put more strain on her limbs. She was anaesthetised for a final evaluation on the 13 December and since no improvement was seen on the radiographs, she was euthanized.

Resident male AJU 1566 (Quasar) was missing the morning of the 28 June 2013. He was found near CCF severely injured most likely from a warthog. He had been eviscerated and his intestines suffered extensive damage. He was anaesthetised on site and taken to the CCF veterinary clinic. Dr. Axel Hartmann of Otjiwarongo Veterinary Clinic and CCF veterinarian Dr. Amelia Zakiewicz performed resection of a large section of damaged intestines followed by anastomosis. The lengthy procedure was high risk due to the amount of blood loss and the extent of damage to the intestines and, regrettably, he did not recover from anaesthesia.

Resident female AJU 1493 (Amani) had a reoccurrence of a corneal lesion in her right eye. The lesion progressed into a corneal ulcer and she showed signs of pain. On 30 January, Amani was anaesthetised and a third eyelid flap (suture of the third eyelid to the upper eyelid) was performed to form a protective layer of tissue over the damaged cornea to favour healing. The procedure was repeated twice as slow progress was observed. One month later the healing was still unsatisfactory (not enough new blood vessels had formed to provide nutrients to the eye to promote healing) and the veterinary team elected to perform a conjunctival flap (suture of the conjunctiva to the cornea) to provide a direct supply of blood to the injury. Amani was prescribed a course of antibiotics and pain medication. On 8 April's follow up exam the ulcer had reduced in size however the iris had prolapsed through the ulcer

site. It was decided to monitor the progression of the lesion in case the ulcer managed to reduce further but the eye collapsed. On 22 April 2013 Amani was darted to enucleate (remove) her right eye under general anaesthesia. She made a great recovery and is doing very well with one eye.

Resident male AJU 1602 (Khayjay) had an outbreak of dermal Feline Herpes Virus Type 1 (FHV-1) on the left front carpus since August 2013. After confirmation of the causative factor, he was treated with oral Famciclovir, a human anti-viral drug, as well as topical medication to favour healing. On 9 October he was sedated to fully assess the lesion and cauterise the edges to avoid further spread. After months of daily care to his wound, the lesion has decreased significantly in size and continues to improve steadily even though slowly.

3. Wild Cheetah Exams

Between 1 January and 31 December 2013 CCF worked on five (2M, 3F) wild cheetahs (Table 1). Two of the wild cheetahs, AJU 1640 and 1641, were cubs; AJU 1640 was less than six months old and did not require anaesthesia for the work-up. Both cubs were placed into captivity. Female AJU 1632 was brought back into captivity in March 2013 due to human-wildlife conflict and was found to have dental issues, which were addressed. She was released into Erindi game reserve in October. AJU 1643 was an adult male, who walked into an empty cheetah pen, and was worked up and released after a minor soft-tissue injury healed.

4. Dental Procedures of CCF's Wild and Captive Cheetahs

In 2013, 12 dental exams were performed on 11 (4M, 7F) captive cheetahs (Table 1). In most cases, root canals were performed on damaged teeth rather than extractions. The oral health of the cheetah is very important for their general health as their teeth are necessary for prehension and mastication of meat. Dr. Dennis Profitt, a human dentist in Otjiwarongo, graciously performs all of the dental treatments for CCF's cheetahs, either at his office in town or at CCF.

5. Reintroduced Cheetah Exams

Five reintroduced exams took place in 2013. All animals were fitted with radio-collars so that their habits and habitats could be monitored and recorded.

AJU 1444 (Luna) and AJU 1632 (Athena) were released on 15 October 2013 into Erindi Private Game Reserve. Both female cheetahs are currently doing well hunting and surviving.

AJU 1510 (Jacomina), AJU 1511 (Minja) and AJU 1512 (Emma) were released 23 December 2013 onto CCF land.

6. Deaths, Euthanasia, and Necropsies

Between 1 January and 31 December, CCF conducted seven (3M, 3F; 1 UNK) necropsies on captive, wild and re-wilded cheetahs (Table 2). Three were captive cheetahs, two females (AJU 1340 and AJU 1642) were euthanized due to health reasons, and one male (AJU 1566) died as a consequence of warthog wounds. Three wild cheetahs were brought to CCF after death. Two of those were killed by humans and one by a leopard.

Wild male AJU 1543 (Hifi) was found dead on 1 November 2013. It is suspected that his last collar reading on 3 October was his date of death. A necropsy could not be performed due to the level of decomposition. Hifi had been intensely monitored by CCF since the beginning of 2008 and has provided a wealth of data (see Wild Cheetah Releases and Monitoring).

Table 2. Summary of cheetah necropsies performed between 1 Jan – 31 Dec 2013.

AJU	Sex	Date of Death	Cause of Death
1639	UNK	25-Jan-13	Shot by bow and arrow
1545	M	25-Jan-13	Wounds sustained from a leopard
1576	F	20-Jun-13	Shot by farmer, canines chipped + root exposure
1566	M	29-Jun-13	Post anaesthetic death - cardiovascular failure
1543	M	~ 3-Oct-13	Unknown; body too decomposed for necropsy
1340	F	17-Nov-13	Humane euthanasia due to chronic renal failure
1642	F	13-Dec-13	Humane euthanasia due to metabolic bone disease

7. Non-cheetah carnivore exams and necropsies

In 2013, necropsies were performed on one leopard, two small spotted genets, and one wild cat. All animals were found dead and assessed at CCF, including sample collection.

C. Health and Reproduction

1. Genome Resource Bank

Since 2002 CCF has been collecting, evaluating, and freezing cheetah sperm. Between January and December 2013, 12 semen collections were added to the CCF Genome Resource Bank (GRB). The CCF GRB now contains a total of 451 cryo-preserved sperm samples from captive and wild cheetahs in Namibia, representing 103 individual cheetahs.

CCF continues to bank sperm, serum, plasma, white and red blood cells, and hair and skin samples on all cheetahs worked up. Additionally, an increasingly extensive scat sample collection from wild cheetahs in Namibia and neighbouring countries is kept at CCF. 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 in the USA. 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 of biological material.

D. Life Technologies Conservation Genetics Laboratory

1. Life Technologies Conservation Genetics Laboratory

The Life Technologies Conservation Genetics Laboratory (formerly known as the Applied Biosystems Genetic Conservation Laboratory) was set up in 2008/2009 by Dr. Anne Schmidt-Küntzel for the Cheetah Conservation Fund thanks to the generous support of Life Technologies Inc. (formerly Applied Biosystems) and the Ohrstrom Foundation. The laboratory's main aim is to contribute to the on-going 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, 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. In early 2013 Dr. Schmidt-Küntzel commuted to the United States. While in the U.S., she worked closely with a database expert on an interactive electronic laboratory notebook; the first version is currently being trialled.

The laboratory work resumed in full strength in January, as soon as new reagents were obtained to replace the two faulty batches received in 2012, and has been steadily moving forward since keeping the genetic analyser running at full capacity. Since August 2013 the power source of the gel electrophoresis system is starting to show signs of fatigue and will likely stop functioning soon; we are hence looking for a replacement power source. The laboratory was visited by a representative of the Ohrstrom Foundation in June 2013.

In May, Drs. Schmidt-Küntzel and Marker attended a Conservation Genetics workshop in South Africa as guest lecturers.

Ezekiel Fabiano graduated from his PhD in genetics in March and returned to CCF as Quantitative Scientist in November 2013. He is currently finalising the publications that were part of his degree. Lucia Mhuulu, a laboratory intern at the CCF genetics laboratory in 2012, is now finishing the first year of her Master's. Lucia keeps making good progress in her project, which focuses on the genetic identification of scat samples on CCF property. Lucia was granted a stipend from CCF and obtained a governmental grant to cover school fees. Another promising intern, Asteria Kapenda, joined the laboratory from January until May and then returned to school to finish her undergraduate degree. In July, Shalette Dingle, a veterinary student from Cornell University, spent two weeks in the laboratory and in August, Ashley Franklin visited the laboratory as part of her masters' degree. She is a University of Maryland student working with CCF's collaborators from the Smithsonian. In November, Selma Kangongo came to CCF to gain experience in our laboratory.

Genetic projects

Population study of cheetahs on CCF property using non-invasive techniques: individual cheetahs are assigned a genetic as well as a visual ID, through the combination of genotyping of the DNA obtained from the scat samples and the photographs obtained from CCF's camera trap study. This project is part of Lucia's MSc research thesis. Many of these scat samples were collected with the help of the scat dogs Finn, Isha and Tiger.

Verification of the accuracy of the scat detection dogs: Lucia is verifying the species of the scat samples found by the dogs using molecular markers

Wild cheetah scat continued to be collected daily around the CCF centre until November, to allow for long-term monitoring of physiological parameters in two wild males (the "wild boys", Hifi, AJU 1543 and Sam, AJU 1542). The scat walk has since been discontinued since Hifi was found dead; Sam had died in August 2010. Since the start of the project in 2008 over 950 samples have been collected and over 100 samples have been identified genetically. Lucia has been responsible for the daily scat walks since February 2012. The parasite levels are assessed regularly and the diet is determined using hair analysis;

hormone work will be performed when funding can be secured to determine stress and testosterone levels.

Illegal trade: the species content of samples from illegal trade was assessed using molecular markers specifically designed to identify carnivore species in samples of poor quality. The obtained results will be made public when possible.

Babesia: a trial study was conducted in order to determine the percentage of affected cheetahs that are currently at CCF and compare those to the results obtained from microscopic evaluation of blood smears. We also developed a diagnostic test to be used for further screening of the samples. The initial testing was assigned to Shalette Dingle.

Release study: Sixty-six release and pre-release scat samples were extracted and assigned to an individual cheetah. More samples are being processed. Knowing which cheetah the scat samples belong to will allow using the samples for follow up hormone and diet studies.

Funding was secured by Manny Friedman to perform a metagenomics approach to identify a potential viral cause for the high incidence of tongue cancer in the working dogs in Namibia working with veterinarian collaborators from Columbus University (see Squamous Cell Carcinoma (SCC) Research for more detail on the tongue cancer). This study is currently on hold since the collaborator left the University and the funding is not accessible.

Collaborative genetics projects

In September a PhD student from the Smithsonian came to CCF to make use of the unique sample collection of captive and wild cheetahs to determine their amyloidosis status. Ashley Franklin did the genetic work at the CCF genetics laboratory and took matching scat samples back to the US to do hormone work and determine amyloid levels.

A pedigree for white rhinoceros, performed by visiting researcher and Master's student Abigail Guerier from Ongava Wildlife Reserve's Research Centre, was finalised and published in 2012. Abigail graduated with a Master's degree in September 2012. In the beginning of 2013 she started a genetics project on Ongava's resident population of black rhinoceros at the CCF genetics laboratory. The project is on-going and more samples are added as they are collected by the Ongava research team.

A project in planning 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. The project is on hold until outside funding can be secured.

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. Samples were transferred to Dr. Naomab and his students are currently working on them.

A new collaboration was started in March 2012 with Dr. Karen Terio from the University of Illinois and Dr. Emily Lane from the National Zoological Gardens of South Africa for a study on oxalate nephrosis. Primers were designed by Dr. Schmidt-Küntzel and optimised at the CCF genetics laboratory. Diseased

individuals are currently tested in the laboratory of the South African collaborators. Funding decisions are expected shortly and will allow moving the project forward.

A mutation for white lion has been successfully confirmed in a sample set of South African lions. This data was included in a manuscript that is awaiting publication.

A collaboration with cheetah holding facilities and veterinary clinics in the UAE was initiated during a trip in June, to begin developing a genetic database of cheetahs held in that area.

2. Detection Dogs

The scat dog programme has continued to develop in 2013. Search methods were refined in the first half of the year and the selected search methods applied to field searches in the second half of the year. Finn and Tiger performed a combined total of 159 searches during 2013 (not including training searches). 69 searches were performed between January and June, and 90 searches were performed between August and December.

Currently, CCF has two operational scat dogs, Finn and Tiger. Handler Stephanie Cunningham continues to work predominately with Finn. In August, Eli Walker was brought onto the team as Tiger's main handler. Finn continues to work off-leash, and Tiger is starting to work off-leash as well. Work with Isha was put on hold for the present time, due to reduction in scat dog personnel. Billy's future with the programme is uncertain.

The scat dog team performs various search types, including quick checks around playtrees, extensive searches around play trees using a grid design, and road searches. The grid method designed earlier in the year, to determine if cheetah defecation is restricted to the immediate area at the base of the tree, or if scat is deposited further out, was modified to a smaller grid size as the dogs seemed to be getting tired before the end of the search. The dogs (Finn and Tiger) have walked a combined distance of 1051.62 kilometres during 2013. Of this distance, 496.76 kilometres were walked along roads (45.20 from January through June, and 451.56 from July through December). The dogs continue to use GPS collars during searches so that the tracks and coordinates of any scat found may be recorded. During 2013, the scat dog team collected a total of 150 scat samples from the field. Of these, the dogs indicated in the field that 81 were cheetah scat. The dogs did not show interest in the remaining 69 samples, so they were brought back as unknown carnivore samples. The majority (74) of the cheetah samples were collected between July and December since the first half of the year was predominantly dedicated to the development of protocols and training sessions. Of the 81 cheetah samples, 8 were found along roads, and 63 were found at play trees or termite mounds thought to be common scent-marking posts. The remaining samples were found in areas such as around dams, along the fences of cheetah pens and trails.

The scat dog team received new equipment in the latter half of 2013. Two Ruffwear Swamp Cooler Vests were donated by former Earthwatch volunteers Pippa Francq and Allen Loyd (Figure 1). These vests are designed to keep the dogs cool through evaporation during the hot summer months. Another GPS device, Garmin Foretrex 401, was purchased through the National Geographic Scat Dog Grant. This device records GPS locations every second and has been used in addition to the collars, to improve the accuracy of the tracks recorded while working (Figure 2).



Figure 1. Scat dog Tiger wearing Ruffwear Swamp Cooler Vest donated by Pippa Franca and Allen Loyd.



Figure 2. Example search around the perimeter of a waterhole done by Finn, showing the difference in detail between the GPS collar (light blue) and new Garmin Foretrex 401 (dark blue).

E. 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. As we have collected a wealth of information on the cheetahs on CCF land, including positively identifying 22 cheetahs (10 males, 5 females, 7 cubs), during the first half of the year we decided to bring all the cameras in except a few throughout CCF's land to monitor "WildBoy/Hifi" (see Wild Cheetah Releases and Monitoring). However, at the end of 2013 we decided to conduct a new cheetah census over a period of three months, from November 2013 to February 2014, to determine whether there are any new individuals, or if the previous individuals from the last census are still about. Thirty cameras were placed at 15 stations and are monitored weekly.

CCF hopes to start censusing other areas of Namibia in the near future to determine cheetah population numbers across the country.

2. Wild Cheetah Releases and Monitoring

While CCF has successfully reached $\geq 3,000$ Namibian farmers with its integrated livestock and predator management courses and programmes, much work remains to be done. In many areas of Namibia farmers still continue to kill cheetahs, but those who are aware of CCF contact us to seek help and trap them, rather than kill them.

CCF is on call 24/7 when farmers call to notify about a real or perceived cheetah problem. The CCF staff may assist with setting traps or retrieving cheetahs already trapped. Direct contact with the farmers also allows the staff to provide them with information about CCF's non-lethal predator management methods. Since its founding in 1990, the CCF staff has retrieved over 800 cheetahs from farms or private owners across Namibia. Once at CCF, every cheetah's condition is evaluated by the veterinary staff to determine whether it is healthy and old enough to survive on its own. Consequently, over 600 cheetahs have been released back into the wild. Depending on the release location and the specific cheetahs, CCF attempts to monitor released cheetahs via radio or satellite collars.

During 2013, two adult males, AJU 1543 (Wild Boy/Hifi) and 1643, were released back into the wild after workups. Both males were caught during efforts to capture escaped female cheetah AJU 1563 (Soraya). One of these males, AJU 1643, had never been observed on CCF property, and was released after we placed a transponder and we deemed him healthy, although no tracking collar was placed on him.

Below are updates of the two wild cheetahs (1M, 1F) monitored by CCF staff during this reporting period: female cheetah AJU 1630 (Mom), released in late 2012 with two sub-adult female cubs, and wild resident cheetah Hifi. Mom was monitored until her collar stopped transmitting in early February while Hifi's body was found dead on the Big Field on 1 November. No other wild cheetahs were being monitored by CCF at the closing of this period.

- **The Gobabis Quartet**

On 8 November 2012, CCF staff picked up four female cheetahs, two adults and two sub-adults (AJU 1629, 1630, 1631, 1632) that were caught inside traps set out by a farmer in the Gobabis region of

Namibia. Another young female cheetah (AJU 1633) was also caught by the farmer and died from dehydration and heat exhaustion. The stressed cheetahs were brought to CCF in transport crates. As previously reported, all four females were soft-released on 15 December at CCF’s game camp Bellebenno, after one of them had her toe amputated due to severe damage caused in the capture cage.

During the early stages of 2013, AJU 1630 (“Mom”) and her two sub-adult female cubs moved south (Figure 3). On 6 February the GPS/VHF combination collar that was fitted on Mom stopped transmitting. Farmers in the area reported that they hadn’t seen her, so it is hoped that the three females re-adjusted to life in the wild.

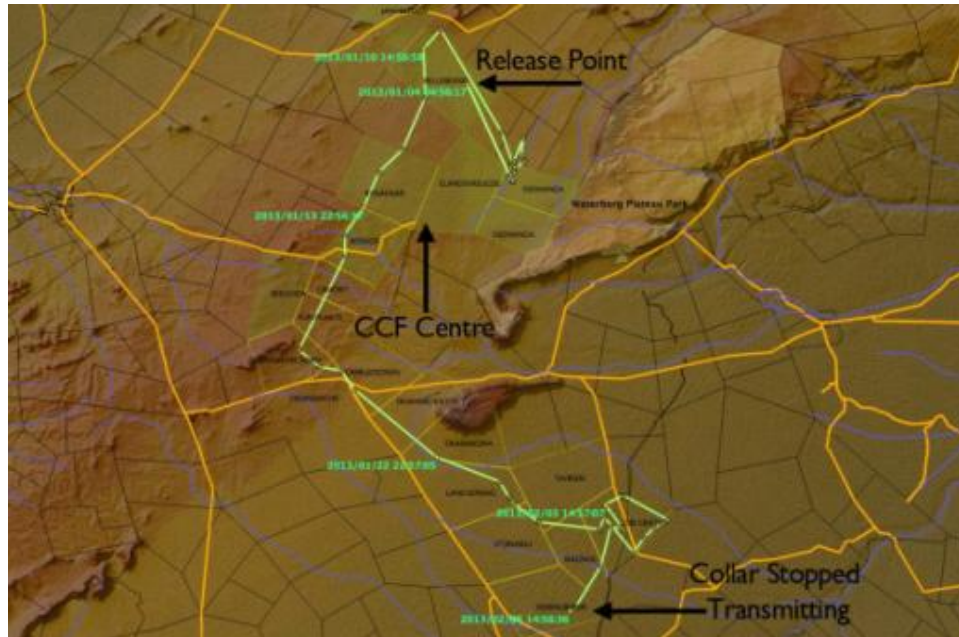


Figure 3. Movements of female cheetah AJU 1629 (“Mom”) between 1 January and 6 February, 2013.

The other adult female AJU 1632 (Toeless, later re-named Athena) had a normally functioning collar and gave us a great deal of data concerning her daily movements (Figure 4). Nearly 2.5 months after her initial release into the Bellebenno game camp, she started to wonder north of CCF property. Her satellite data showed that she was sticking closely to a neighbour’s farmhouse. CCF staff called the farmer to inquire about any reports of missing livestock or observations of a collared cheetah; he confirmed both. The decision was made to re-capture her, and after a successful darting operation, she returned to CCF on 2 March 2013.

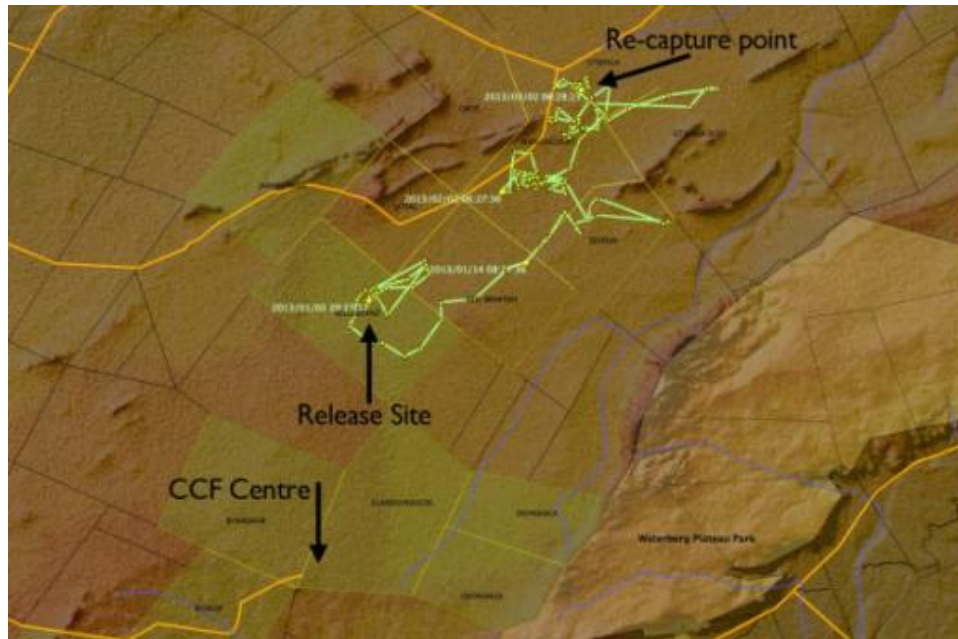


Figure 4. Movements of female cheetah AJU 1632 (“Toeless”) during January-February 2013

On 1 March 2013, CCF staff visited the cooperating farmer and tracked the female using radio-telemetry equipment, which confirmed her proximity to the farmer’s homestead and goat kraal. The following day, a trap cage was set adjacent to a cage with a live goat inside. That evening, the female was captured and returned to CCF.

Her examination revealed dental issues, which may have been a reason for her to resort to killing livestock. During a palpation it was discovered that she was also several weeks pregnant. After fixing her teeth and receiving much needed vaccinations the female was taken to the Bellebenno cheetah camps, far away from people. It is believed that she had her cub(s) around 20 April 2013 inside her 1-ha Bellebenno camp, and throughout the following weeks one cub was observed twice and heard frequently. The female, now dubbed “Athena” was put on a strict diet of minced (ground) donkey to allow the cub to come and eat once weaned off the mother’s milk. A camera trap was also set up near the feeding area to record the date on which the cub came for meat.

On 1 June, the electric fence surrounding the Bellebenno cheetah camps was broken as a result of burrowing warthogs. The camera trap caught footage of Athena with a large wild male cheetah AJU 1537, recorded as “BB Wild Male 2” that entered into her camp through one of the warthog holes. The following day, Athena was moved from her camp so CCF staff could see if the cub was still alive and to repair the broken fence line. There were no signs of the cub, which could indicate that the ~8 year old male possibly killed the cub. The photos did not show if the two cheetahs mated although she is being observed closely. If so, she would be due around the beginning of September.

After months in captivity, Athena was selected to be part of a reinforcement translocation at Erindi Private Game Reserve (see Cheetah section below).

- **“Wild Boy/Hifi”**

CCF’s resident wild male cheetah AJU 1542 (Hifi) continued to include the CCF Centre within his home range this year.

Hifi’s movements and presence around the centre were monitored by camera traps and visual sightings. Camera trap stations across the CCF farms recorded him frequenting the play trees on the Big Field as well as going through the farm Osonanga.

In addition, Hifi was fitted with a VHF/satellite collar. The VHF part of his collar, which had allowed us to monitor him daily and use him as an eco-tourism activity to further educate the public about the cheetahs’ plight and the research carried out at CCF, stopped functioning in January. The satellite collar, however, continued to send excellent data on his movements and hunting activities in the area (Figure 5) until the end of June, when it also stopped working. Between January and June, Hifi spent on average 17 days per month around the CCF Centre, with the lowest incidence in March and May at 14 days each month and the highest in April with 22 days. Over the first six months of 2013, Hifi spent 15 consecutive days at the Centre in April and a maximum of 4 consecutive days away from the Centre in May. No significant patterns were observed other than that his visits lasted one day at a time on average before being away for at least one day. Two kudu kills were found through points recorded via his satellite collar, which enabled us to document the kill sites, take photos, and register the GPS co-ordinates. Both kills were found on CCF land close to the CCF Centre and on Boskop.

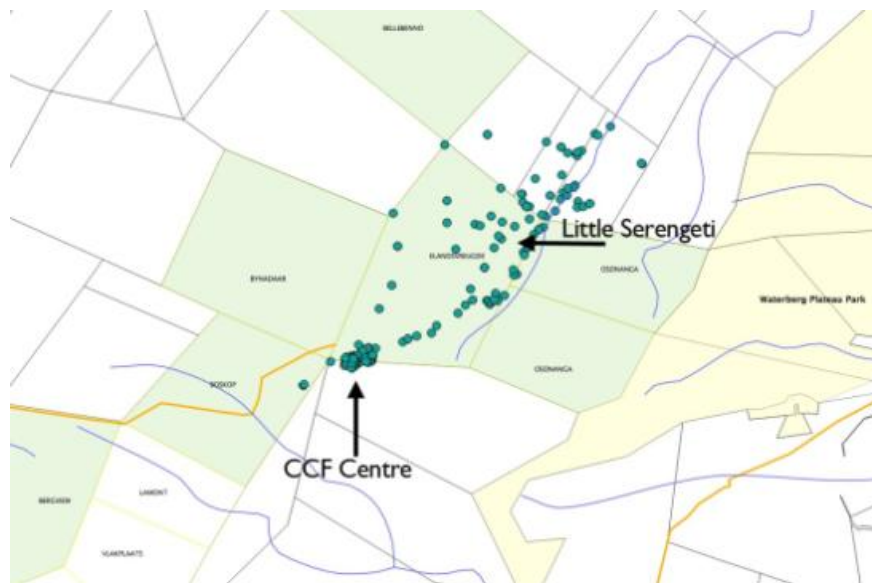


Figure 5. Movements of male cheetah AJU 1543 (Hifi) during January-June 2013

Nearing the end of April, Hifi scared an adult female kudu into one of CCF’s captive cheetah enclosures known as Eland’s Camp. The kudu was brought down and eaten by four of CCF’s resident females that were in the enclosure at the time. The following evening, a carcass of a kudu calf was found near another fence line bordering the captive cats, which seems to indicate that this wild male cheetah has learned how to use fences to trap, corner, and kill prey.

On 1 July 2013 Hifi was caught at the Centre in a trap cage whilst trying to capture another individual, and to ensure he wasn't captured again, he was kept in a large quarantine pen for four days and given a full health check-up during which his satellite collar was checked but no issues could be identified. Hifi was re-released on 5 July 2013. For the next three months, camera traps and visual sightings placed him at the Centre five days in July and six in August, as expected after his capture, whereas in September he spent nine days at the Centre.

Hifi was found dead on CCF's Big Field on 1 November. Hifi's last sighting was on 26 September on the airstrip during a game count, where he had made a kill and was looking healthy. On 29 October we received three points from his satellite collar, although on recovery we deduced that the signals must have been the result of scavengers moving and biting the collar. Once the information was downloaded from the collar, data showed that he had not moved since 3 October, which was assumed as the date of death. Hifi's body was too decomposed to perform a necropsy and determine cause of death.

3. Cheetah Reintroduction

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

CCF's research into reintroducing orphaned cheetahs back into the wild began in 2004, and our success with reintroductions still continues.

During 2013, three adult cheetahs (3F) were hard-released back onto CCF property, while two more adult cheetahs (2F) were reintroduced at the Erindi Private Game Reserve. Following are updates on new and previously reintroduced cheetahs.

- **The NamibRand Reintroductions (2008-2009)**

The NamibRand Nature Reserve (NRNR) was identified as an ideally suited location for CCF's long-term reintroduction project. Consequently, during 2008 and 2009, seven previously captive-held cheetahs (5M, 2F) were released. The five radio-collared males (AJU 1347, 1326, 1327, 1347, 1350) provided the last transmission in May 2010 and were reported by a farmer to have been shot in 2011. One of the females (AJU 1506) was reported alive in 2010, but no other reports have been received, and female AJU 1507 was found dead on 1 June 2009, most likely due to a spotted hyena attack.

Additionally, a wild mother cheetah AJU 1576 and her three (2M, 1F) nearly independent cubs (AJU1574, 1575, 1577) estimated at 1.5 years of age were translocated to NRNR in January 2009. The cubs dispersed from the female shortly after release and in December 2009 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 stopped transmitting in February 2013 after four years of providing an unprecedented amount of data on the movements of female cheetahs in Namibia's arid south.

The satellite collar, manufactured in New Zealand by Sirtrack, far exceeded its expected 2-year lifetime providing us with detailed positional data. Data from the final few weeks (1 January to 4 February - Figure 6) shows that this female had again settled down on a single farm, an action we have repeatedly observed on various properties, as she gradually migrated north and east from the NRNR. Reports from a farmer in the area indicated that she was with cubs.

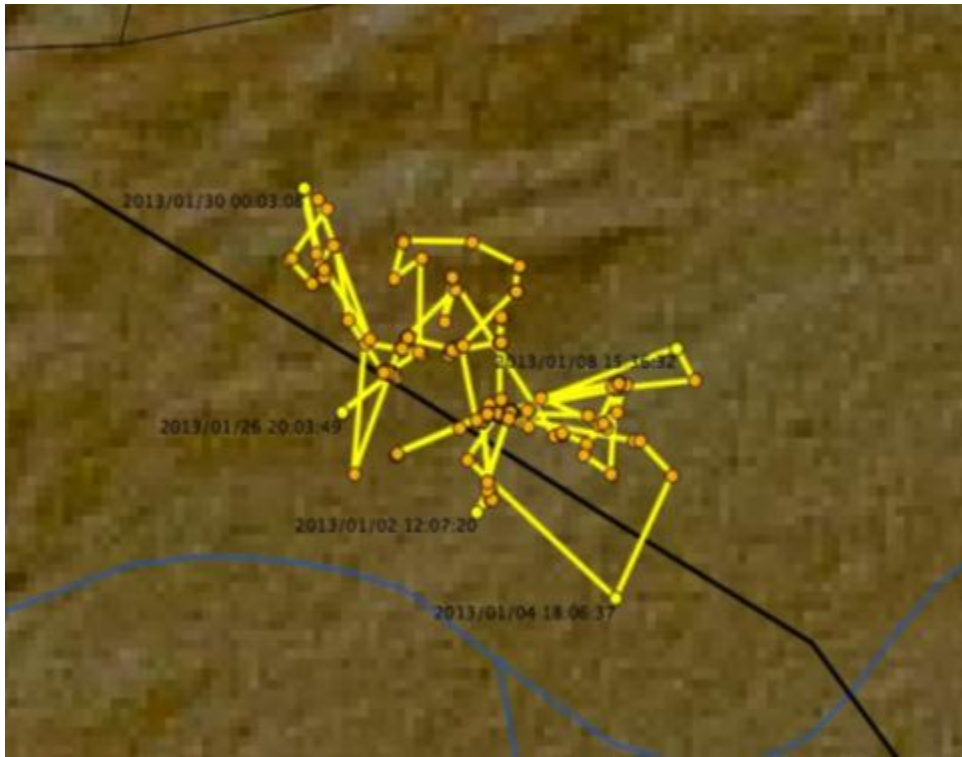


Figure 6. Movements of female cheetah AJU1576 between 1 Jan-4 Feb 2013.

On 7 June, CCF received a phone call from a farmer in the area notifying CCF that the female and three cubs had been shot by his workers due to her proximity to their livestock. A necropsy was performed and stomach contents will be analysed to determine whether the female was predated on livestock.

Releasing captive cheetahs back into the wild has had many challenges. This incident only makes more pressing the need to expand CCF's educational efforts. Notwithstanding, the NamibRand reintroduction continues to be considered successful as there are now cheetahs living in an area where they had been exterminated for several decades.

- **The “Chocolates and Chanel” (2011 – 2013)**

AJU 1348 (Hershey), now 11 years' old and the last remaining female of four reintroduced in 2011, continues to survive in Erindi Private Game Reserve. In the past year, she has consistently made kills over a large range of prey; including waterbuck, springbok, smaller antelopes such as steenbok and duiker, and scrub hares. In June, the Erindi staff darted Hershey to replace her VHF collar, as it had not been working for over a month. During the anaesthesia, blood was collected and sent to CCF for analysis. She was found in good health and continues to fascinate Erindi visitors, as she has even taken down prey outside of guests' rooms. Hershey has also been known to walk 20+km overnight spanning the length of certain Erindi boundaries.

Her sisters Nestle (AJU 1349) and Toblerone (AJU 1351) were killed during hunting accidents in 2011 and 2012, respectively. The fourth female, Chanel (AJU 1243), was found dead near a waterhole, presumably of old age, in 2012. Chanel was nearly 13 years old.

- **The “Leopard Pen Boys” (2012-2013)**

On 28 June 2012, four captive male cheetahs, Omdillo (AJU 1539), Chester (AJU 1540), Anakin (AJU 1545), and Obi-Wan (AJU 1561), were translocated to Erindi Private Game Reserve in Namibia and successfully released after VHF collar placement. The four males underwent reintroduction training at Bellebenno in late 2011.

As previously reported, AJU 1539 (Omdillo) was shot by a neighbouring farmer in October 2012. He had been observed escaping the game reserve several times.

During the last week of December 2012, CCF was informed that AJU 1545 (Anakin) was suffering from severe injuries to his hindquarters, tail, and hind paws. He was put on a 5-day course of antibiotics. On 2 January 2013, his final day of treatment, Anakin was observed drinking water in the early morning at one of the reserve’s water holes. Later in the day, when Erindi staff was getting ready to medicate him, Anakin was found dead beneath a tree near the waterhole. The necropsy revealed that the 5-year-old male might have been attacked by a leopard from behind. He had deep wounds on his hindquarters as well as around the base of his tail. Many of the wounds had internal haemorrhaging as well as deep infections, which may have been the cause of death.

The two remaining males of this coalition, AJU 1540 (Chester) and AJU 1561 (Obi-Wan) have become inseparable since the deaths of their coalition mates. They are reported to be in great health and continue to give Erindi’s guests unforgettable memories. Since their release, these two males have survived Erindi’s high predator densities and have been observed taking down very large prey together, including red hartebeest bulls and even several giraffe calves. The two males are often seen in an area of Erindi called the Vlei, which they appear to have chosen as their territory, although they do venture into other areas to make kills. The male have separated at times to mate with females, however it is uncertain if any offspring have been born. Chester still has a slight limp from his stifle joint surgeries and Obi-Wan had an injury to one of his ears. Despite these implications, both males have proven to be very successful post reintroduction.

Bellebenno Game Camp “Training Ground” Reintroduction Project

Until October 2013, CCF refrained from doing any soft-releases in CCF’s 4,000-ha Bellebenno soft-release camp, in order to give the prey inside the game camp a chance to recover from four consecutive releases performed in 2011 and 2012. In October 2013 a solitary female AJU1444 (Luna) was placed back into the Bellebenno soft-release camp.

As reported in 2012, on 22 January 2012 Luna spent 26 days in the camp and proved to be successful at hunting, managing to kill warthog piglets (n=3), duiker (n=1) and steenbok (n=1) before being returned to captivity.

It was not until the beginning of October 2013 that a home in the wild was found for Luna. Due to the prolonged amount of time back in captivity, Luna was put back into the soft-release programme. She was fed whole carcasses prior to the soft-release, however she was having difficulty opening them. On 8 October 2013 she received root canals on all four of her canines in hopes this would ease the task of opening carcasses.

On 10 October 2013, at nine years of age, Luna returned to the Bellebenno game camp. She was released from the captive cheetah enclosure and the team had her follow the feeding vehicle roughly 2km to the nearest waterhole. She was fed half of a warthog carcass at the waterhole. She remained at this waterhole for the 5-day duration of her soft-release. In this time she managed to kill only eland calves (n=5) and seemed to prefer eating the throats and shoulders of the prey. She was hunting excessively and, to prevent waste, the majority of the kills were taken from her in order to feed some of CCF's captive cheetahs.

On 14 October 2013 Luna was caught in a capture cage near the waterhole using meat to lure her inside. She was placed into a transfer crate to await her reintroduction the following day alongside another adult female cheetah, Athena (AJU1632).

- **Athena and Luna (2013)**

On 15 October 2013, two adult female cheetahs AJU1444 (Luna) and AJU1632 (Athena) were driven to Erindi Private Game Reserve in order to take part of an extensively monitored reinforcement conservation translocation. The females were released from their transport boxes at two adjacent waterholes in front of the Erindi lodge. Around 80 lodge guests had the opportunity to observe the event. Athena, the wilder of the two females, immediately ran out of sight. Luna remained close; she ignored the supplemented eland leg but did stop at the waterhole where she drank for several minutes. Athena was spotted minutes later attempting to hunt impala in the nearby area. In the evening, both females were observed walking around the reserve, with Luna remaining several metres behind Athena. This was the last time the two females were seen together.

Luna struggled to hunt successfully during the first week and was supplemented twice with oryx and warthog forelegs as well as liver. On 26 October, Luna made her first kill. She hunted an adult female impala at the release site waterhole by running the animal into the electric fence that protects the lodge. That evening she was chased off her kill by a pride of lions, which is a type predator that she had never encountered before. Throughout the end of November, Luna managed to also kill a scrub hare (n=1), steenbok (n=3), warthog (n=2), duiker (n=1), and a bat-eared fox (n=1). Since the CCF monitoring team left Luna, she was reported by Erindi staff to have killed more steenbok, another bat-eared fox as well as waterbuck. Her home range remains around the release site waterhole.

Athena did not have to be supplemented with food throughout her release, as she had no problem hunting. On the third day of the release she made her first kill, a sub-adult male warthog. Throughout the remainder of October she managed to kill another warthog (n=1), oryx (n=1), and a waterbuck (n=1). However, she was given water as she seemed unable find a permanent water source. She then managed to break into the reserve's sable *boma* to drink and unfortunately on 30 October, Athena escaped the reserve in the pursuit of water. On 7 November she was found on a neighbouring farm eating a freshly killed kudu. She was darted/anaesthetised and transferred to a *boma* inside the Erindi reserve, where she was kept to undergo a habituation process to make her more comfortable with people. She was kept in this enclosure for the remainder of the year.

- **The Wild Girls (2013)**

The three sisters AJU 1512 (Emma), AJU 1511 (Minja), and AJU 1510 (Jacomina), dubbed the 'Wild Girls,' were released from Leopard camp on the 23 December 2013. Prior to their release they were fed a large oryx carcass as the gate was left open for them to leave at their own will. Minja was the first to leave the

enclosure that same evening between 18h30 and 19h00. Her satellite collar initially malfunctioned. However, radio telemetry equipment allowed the CCF tracking team to find her and get a quick visual on 30 December. The remaining two females stayed inside until the late afternoon of 25 December 2013. The daily data on the three females is recorded on the tables below.

AJU 1510 - Jacomina

Date	Fed	Kill	General
23-Dec-2013	Large oryx with sisters		Left gate open
24-Dec-2013			Still in camp - major rains gate flooded
25-Dec-2013			Left camp around 15h30 after car.
26-Dec-2013	Warthog 2kg		On Bellebenno Road
27-Dec 2103	Red hartebeest 2kg		Came to tracker's call. Near same spot as prior day
28-Dec-2013	Fed 2kg game prior to keeper finding kill	Adult male dyker	Did neck bite but left in sun. Lay about 5m away.
29-Dec-2013			No collar download
30-Dec-2013	2kg game		Walking away from trackers; managed to catch up on Bynadaar
31-Dec-2013			Not seen

AJU 1511 - Minja

Date	Fed	Kill	General
23-Dec-2013	Large oryx with sisters		Left Leopard camp 18h30-19h00 –AM satellite reading
24-Dec-2013			No satellite reading – Bad weather
25-Dec-2013			Got signal but not seen – turned around due to bad weather
26-Dec-2013			Not seen
27-Dec 2103			Glimpse of her with tracking but running away from trackers -left her
28-Dec-2013			No signal - not found
29-Dec-2013			Download but could not find her
30-Dec-2013	Fed her 2 x 2kg horse donkey		Good appearance.
31-Dec-2013			Not seen

AJU 1512 - Emma

Date	Fed	Kill	General
23-Dec-2013	Large oryx with sisters		Left gate open
24 Dec-2013			Still in camp. Major rains; gate flooded
25 Dec-2013			Still inside
26 Dec-2013	Warthog 2kg		Left camp on Leopard road

27-Dec 2103	Red hartebeest 2kg		Responded to tracker's call near rhino gate on the road to Bellebenno.
28-Dec-2013	2kg game		Responded to call
29-Dec-2013			No download
30-Dec-2013			Not found
31-Dec-2013			Not seen

F. Ecosystem Research

As over 80% 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 on-going research.

1. **Weather Monitoring**

We continued collecting rainfall data on our farms and daily high and low temperature readings. CCF had the driest rainy season in more than 5 years with only 217 mm since September 2012 (Figure 7). Most dams were dry until December and ground water was pumped to provide water in at least a few. The dates the dams went dry during this period are as follows:

Dam Name	Dry Date
Cattle dam	25-Apr-13
Opopaua dam	18-Dec-12
Field dam	23-Dec-12
Kudu dam	9-Jun-13
Laurie's dam	11-Apr-13
Main road dam	30-May-13
Okumiparara dam	1-Mar-13
Ozonjanga dam	19-Feb-13
Picnic dam	9-Jun-13
Rhino dam	14-Jun-13
Boskop dam 1	3-May-13
Boskop dam 2	29-Jul-13
Workers dam	29-May-13
Bynadaar dam	Jun-13

Good rain arrived in December and all the dams had water by the end of 2013 (Figure 8).

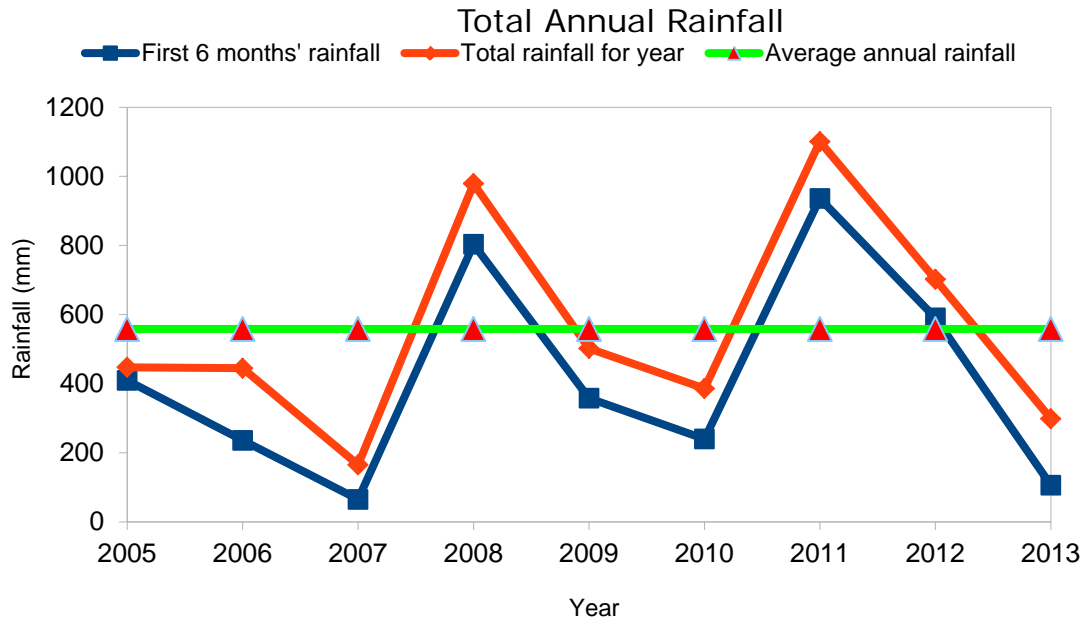


Figure 7. Rainfall since 2005 showing the current below-average rainfall.



Figure 8. Picnic Dam: 21 December 2013 and 26 December 2013

The lowest temperature recorded for 2013 was on 11 June 2013 (-5°C) and the highest temperature was recorded on 18 December 2013 (37°C) (Figure 9).

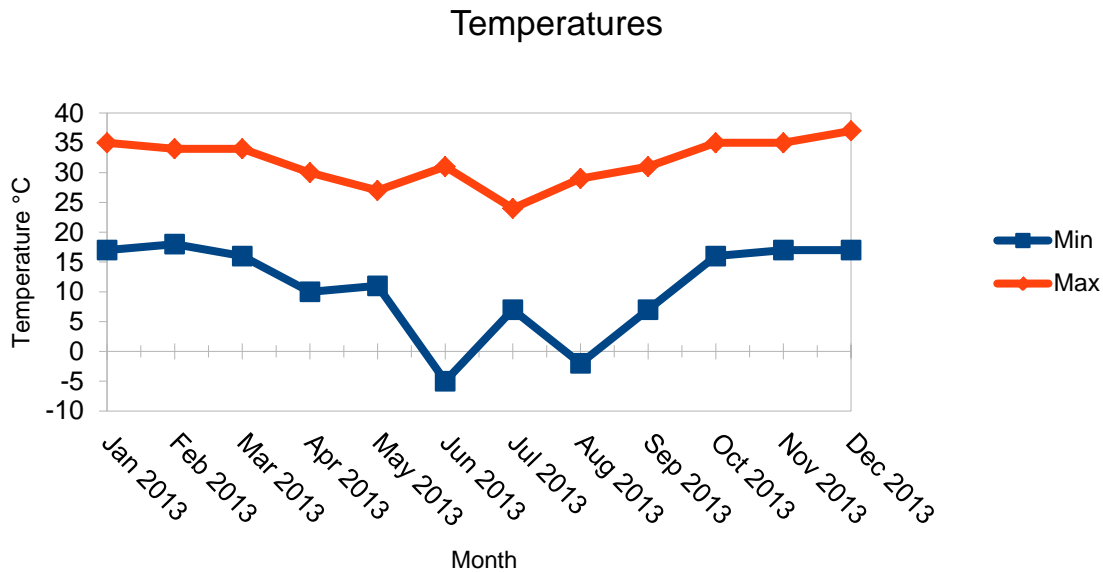


Figure 9. Monthly minimum and maximum temperatures for 2013.

2. Game Monitoring and Prey Habitat Preferences

CCF’s long-term wildlife monitoring programme continues with the assistance of Earthwatch volunteers and student interns. The research conducted on CCF farms is designed to understand patterns and trends of game density, movements, demographics, and habitat utilisation. The monthly monitoring involves visual road counts, categorising vegetation types, densities, and distributions. This information is correlated with data collected on rainfall and temperature.

Big Field Game Counts

CCF’s big field, know also the “Little Serengeti,” is an old uncultivated field of 1,492 ha. The field, one of the largest open uncultivated areas in the north central farmlands, attracts high number of free-ranging game. This area provides an ideal case study to monitor ecological successional trends. Apart from containing high prey densities for cheetahs and leopards, this area is where most of our game is so monitoring trends and understanding the dynamics of how the game utilises the field provides important information for future management strategies and is very helpful for tourism in the long-term. For this reason, CCF has been conducting monthly counts since 2004. The field habitat has changed over the years and currently has a high density of Bitter bush (*Pechuel-Loeschea leubuitziae*), which has presented a change in species density on the field.

During this period, a total of 36 replicate counts were conducted on the Big Field with the assistance of Earthwatch volunteers, students, and CCF staff, resulting in a sampling effort covering 593.28 km. There are 3 routes on the field: Chewbaaka Road = 6.34km, Midfield = 5.38 km, and Osonanga = 4.76km. The total distance travelled per day by 3 teams is 16.48 km and per month, 49.44 km. All data from these surveys were entered into the main database and preliminary results on trends were produced. Population estimates for the common animal species during this period were compared to the same period in 2012 and 2013, showing an overall increase in density amongst all species in comparison to 2012 (Figure 10 and Table 3).

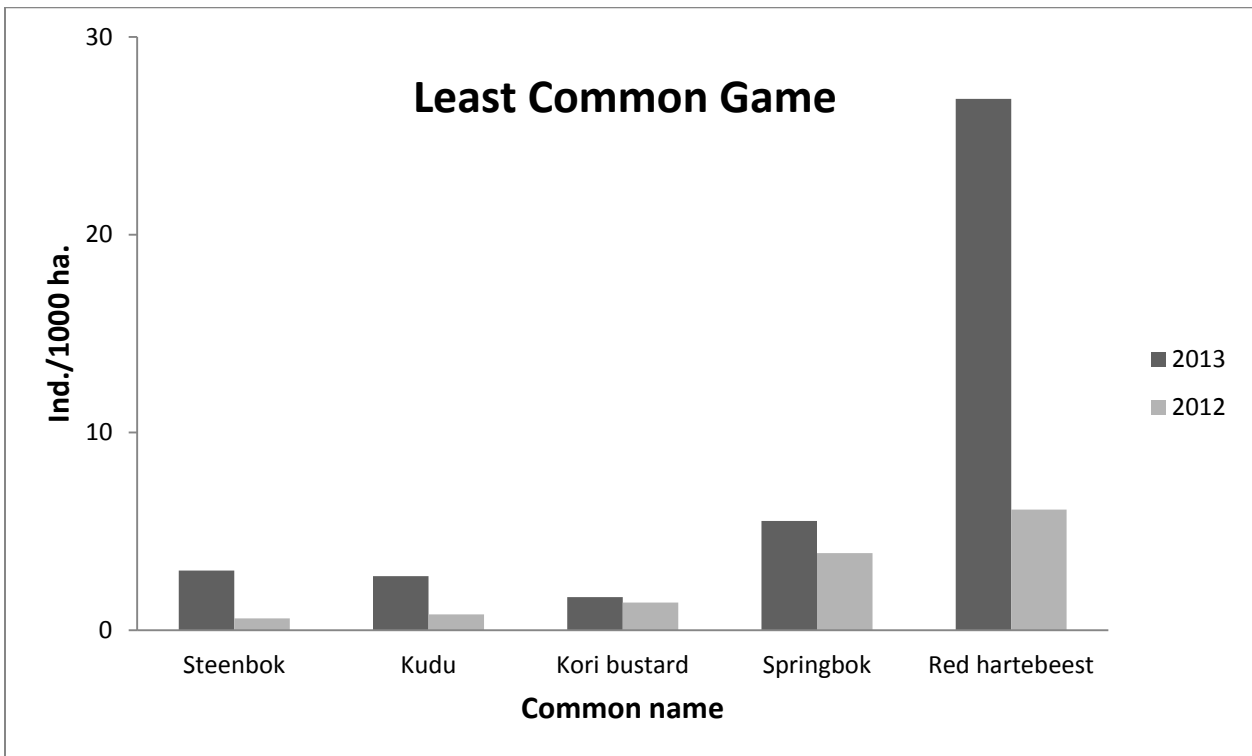
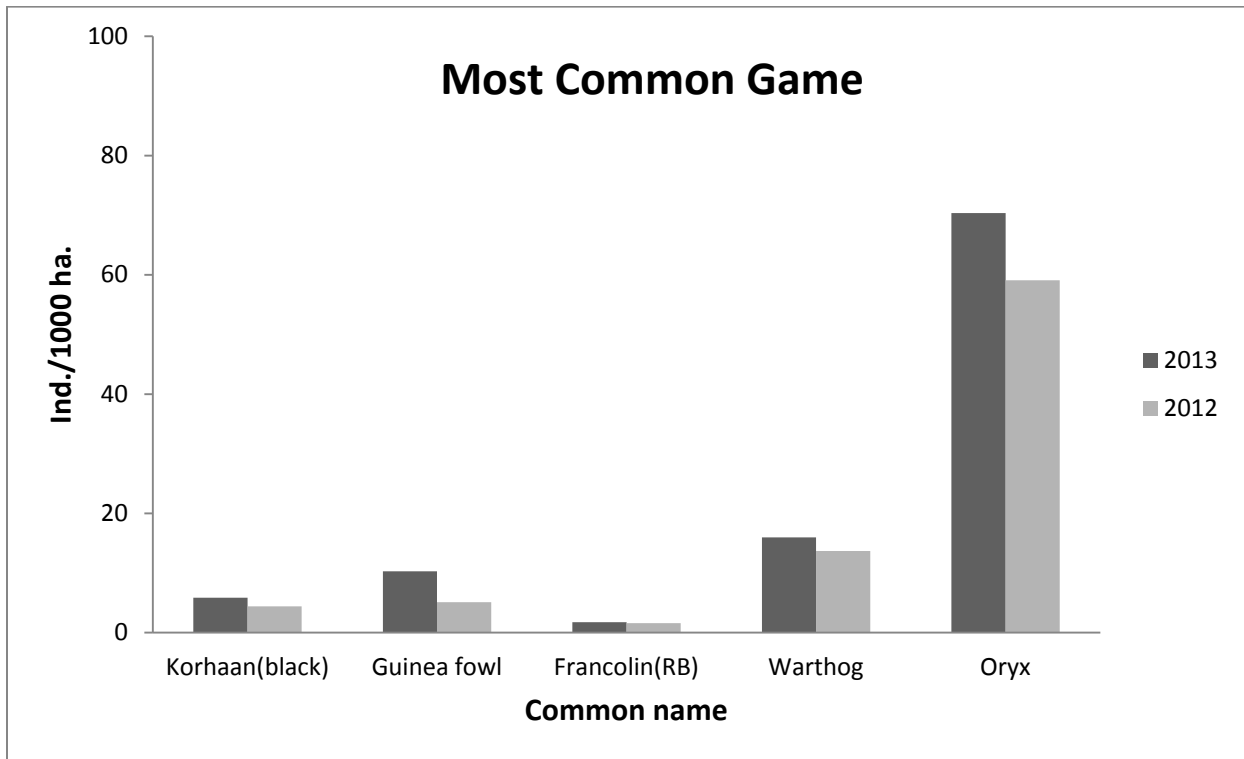


Figure 10. Comparisons of distance density estimates for common game species on the CCF big field for 2012 – 2013, Jan–Dec period.

Table 3. Population estimates (mean \pm lognormal confidence intervals) of common game species counted on the CCF Big Field for the period Jan-Dec 2013.

Common name	Effective Strip Width (ESW)	Population estimate (abundance)		
		Mean	Lower CI	Upper CI
Steenbok	29.74	342.493	239.276	489.276
Warthog	56.11	462.466	331.769	645.442
Springbok	170.32	25.469	15.416	42.895
Red hartebeest	248.30	73.727	52.949	103.887
Ostrich	361.10	18.767	13.405	26.139
Oryx	238.84	251.340	201.743	313.003
Korhaan (red crested)	8.43	97.19	34	274.8
Korhaan (northern black)	23.65	823.05	417.56	1,622.7
Koribustard	113.03	52.279	34.182	81.099
Guinea fowl	21.16	278.15	166.2	464.48
Francolin (red billed)	1.2	503	126	2,019

Circuit Counts

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

During this period, a total of 23 game counts were conducted on circuits B, covering over 598km of farm road.

Oryx encounters were the most frequently observed, followed by red hartebeest and warthog (Figure 11). Game sightings were mostly common on the CCF Big Field.

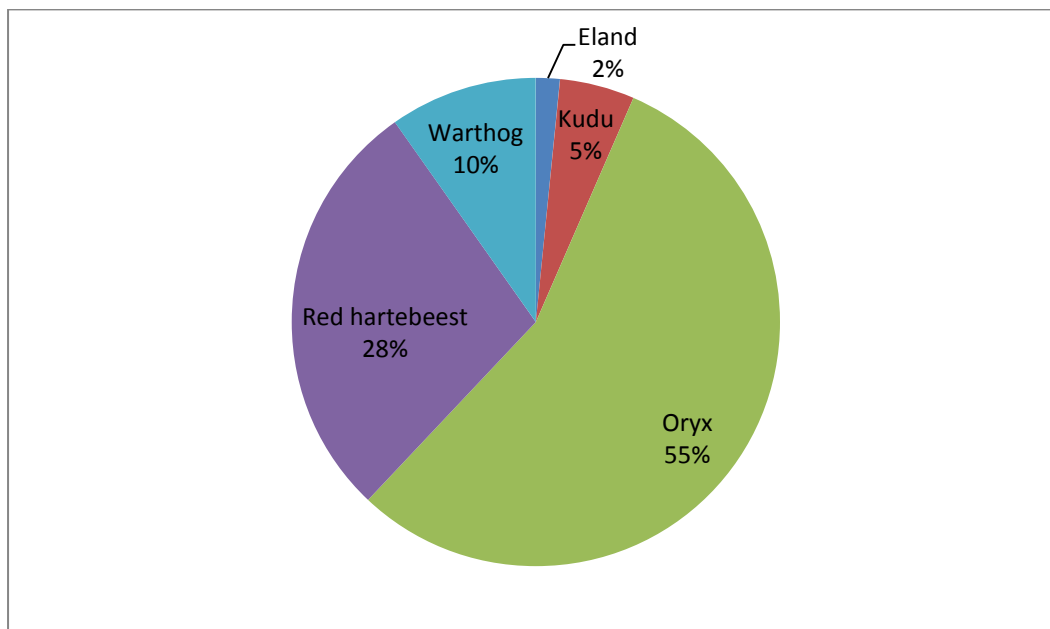


Figure 11. Common game distribution on the CCF circuit counts from Jan-Dec 2013.

Game density

Overall, density estimates (Figure 12 and Table 4) were slightly lower amongst the main species. Most animals on the circuit counts were frequently seen on the CCF Big Field.

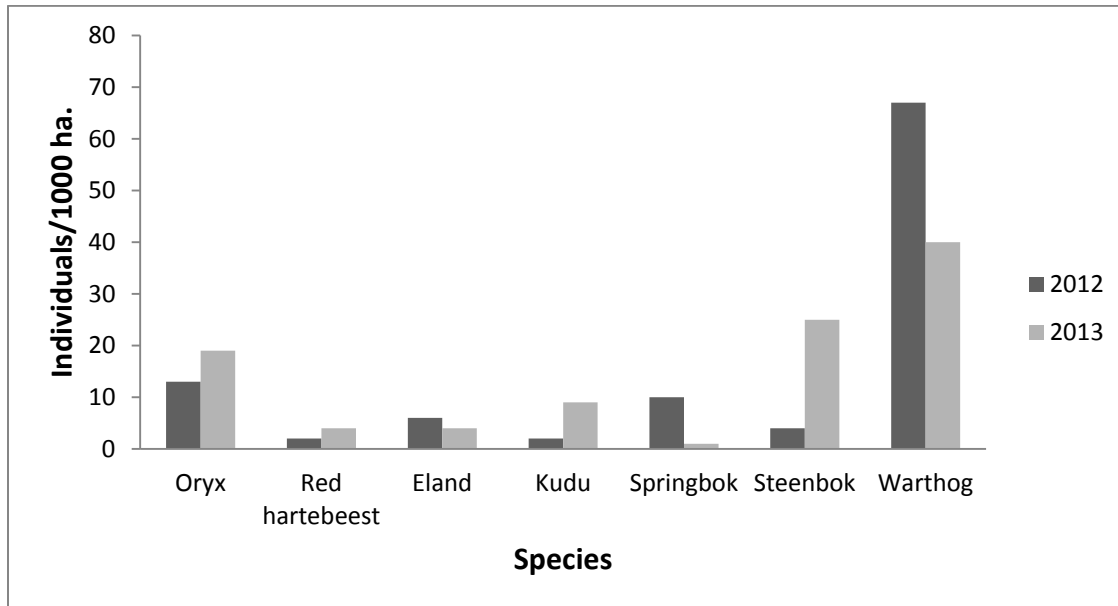


Figure 12. Abundance estimates (animals per 1000ha) of common wildlife species observed on circuit counts for farm Elandsvreugde for the reporting period Jan–Dec 2013. Estimates were derived from distance sampling method.

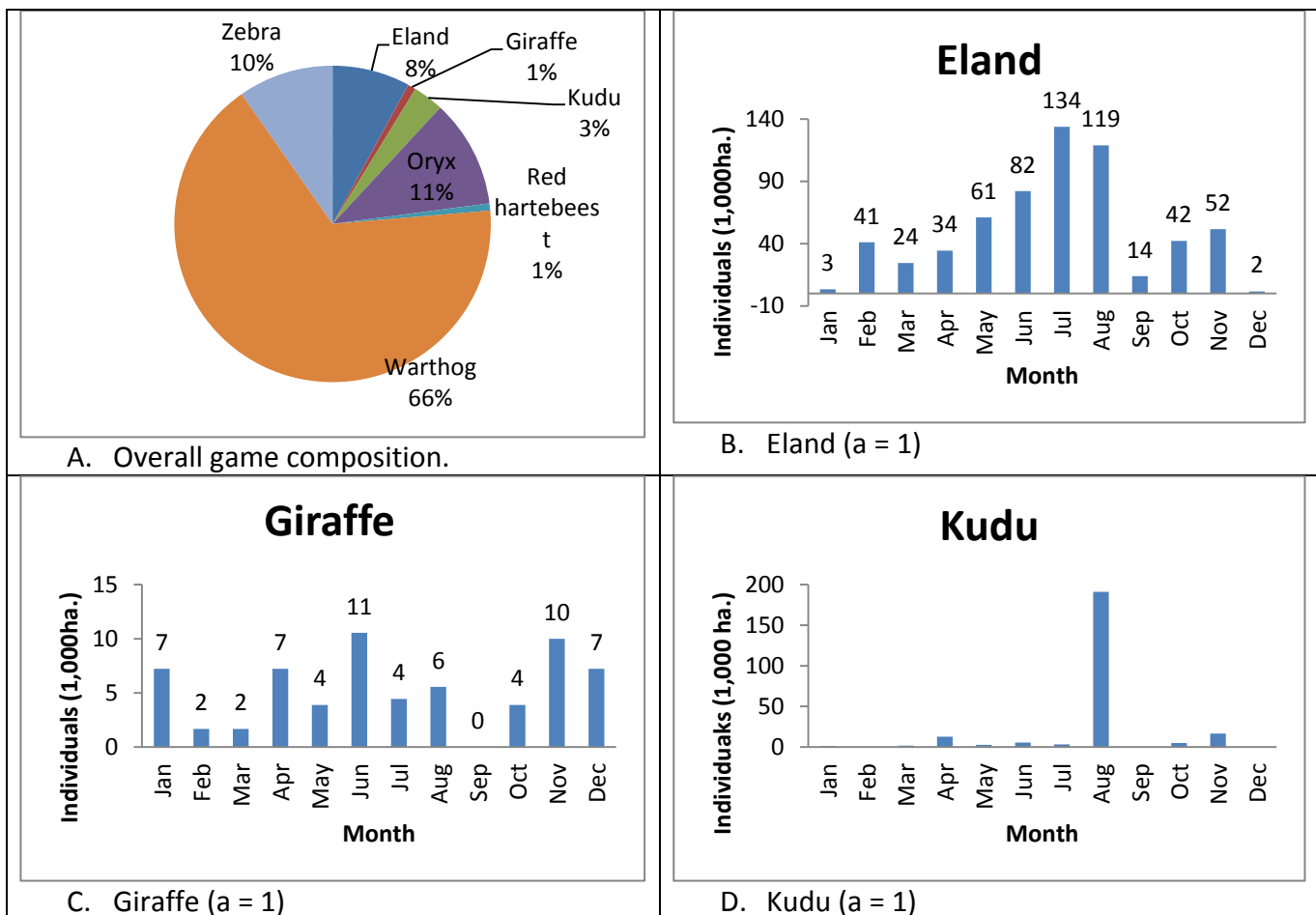
Table 4. Population (1,000 ha.) of the most common wildlife species observed on CCF's circuits B for the period Jan–Dec 2013.

Common name	Distance			Strip			Overall
	N	N LCL	N UCL	N	N LCL	N UCL	N mean
Kudu	9	4	20	11	6	16	10
Oryx	19	16	23	126	79	174	72.5
Red hartebeest	4	2	6	64	21	107	34
Springbok	1	0	2	6	0	16	3.5
Warthog	40	16	98	22	10	35	31
Eland	4	0	38	4	1	6	4
Ostrich	1	0	1	5	2	8	3
Steenbok	25	16	39	10	6	14	17.5
Koribustard	8	4	18	4	1	6	6
Francolin (red billed)	14	5	37	2	0	4	8
Korhaan (Black bellied)	28	18	46	10	7	14	19
Guinea fowl	18	10	33	14	4	24	16
Korhaan (Red crested)	18	10	33	3	2	4	10.5

Bellebenno 12-hour Waterhole Counts

To assist in developing a management plan for the 4,000-ha game-fenced Bellebenno camp, CCF started monthly 12-hour waterhole counts in 2008. Earthwatch and other CCF volunteers and staff members assist with these on-going counts, which involve being positioned in hides at each of Bellebenno's four waterholes and counting animals that come to the waterhole. Information such as species, age, sex, and condition are recorded on standardised sheets, as well as whether the animals utilise 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.

From January to December 2013, waterhole counts were conducted for each month at the four waterholes within the game camp. A total of 16,905 animals were counted from 27 different species. Population estimates derived from these counts showed that warthogs were highly abundant amongst all animals present in the game camp (Figure 13A – H) (Table 5). Least population estimates were observed amongst the giraffe, kudu, and red hartebeest.



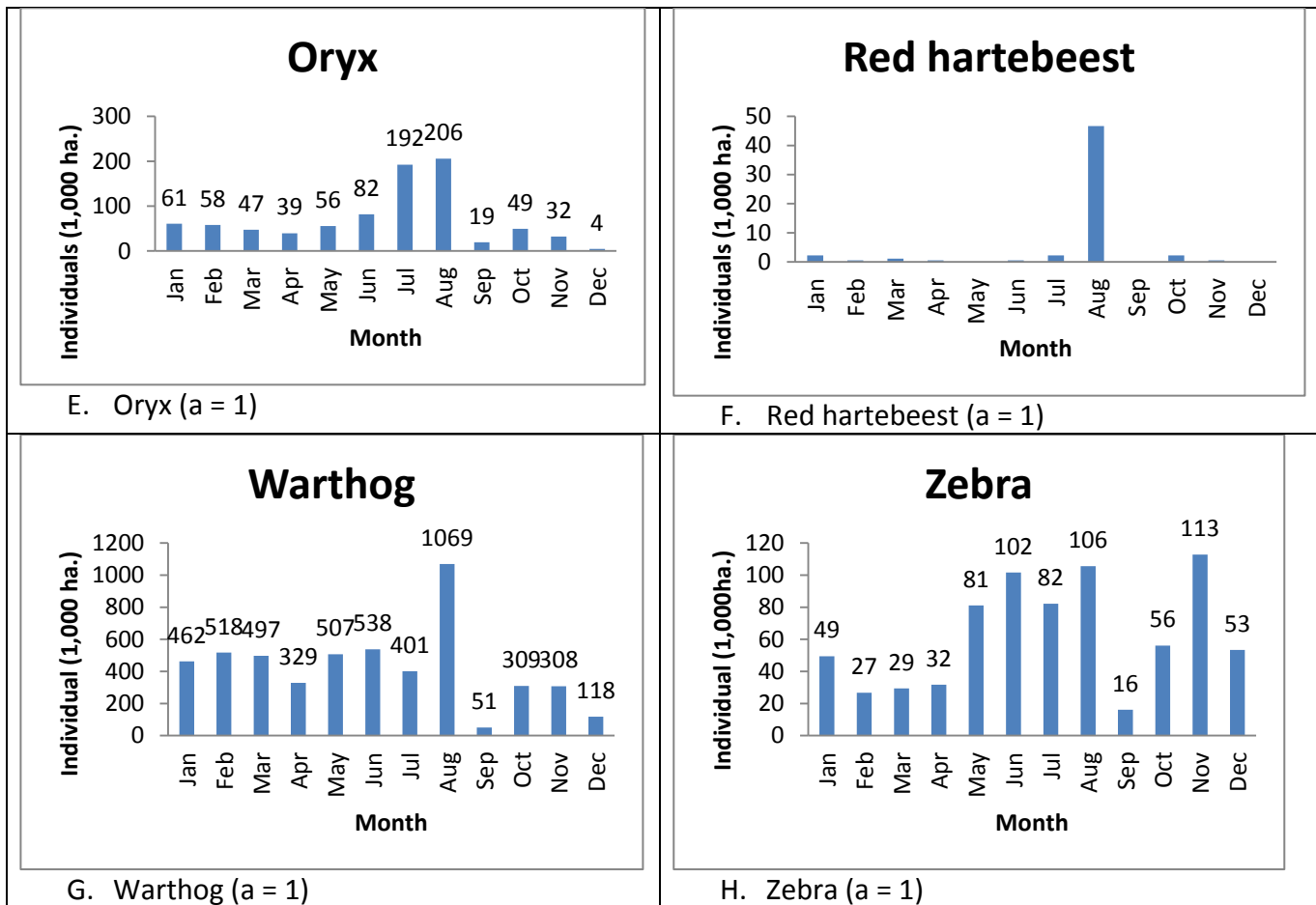


Figure 13. Population estimates (individuals per 1000 ha for game in the Bellebenu game camp for the period January to Dec 2013).

Table 5. Actual numbers of animals counted, densities (animals per 1000ha) for the common game species in the Bellebenu game camp (Jan – Dec 2013).

Common name	mean of <i>n</i>	± 95% CI	N	N LCL	N UCL
Eland	91	43.2	51	27	75
Giraffe	10	3.4	5	3	7
Kudu	36	55.1	20		51
Oryx	127	64.4	70	35	106
Red hartebeest	9	13.5	5		12
Warthog	766	260.8	426	281	571
Zebra (plain)	112	34.2	62	81	81

Annual Waterhole Count

A 12-hr waterhole count was conducted in the Waterberg Conservancy on 6 July. The annual Waterberg Conservancy waterhole count provides population and density estimates and trends of 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 21 waterholes were counted across eight farms within the Waterberg Conservancy. The observers (two persons per waterhole) consisted of CCF staff, interns and volunteers, including Earthwatch, members of the Earth Expeditions group, and members of the Otjiwarongo Art School. A total of 4,934 individual animals (compared with 5,127 in 2012, 3,220 in 2011 and 5,963 in 2010) representing 22 species (17 mammals, 5 birds) were recorded. Warthog, guinea fowl, greater kudu, oryx and Chacma baboon were the most common species. The actual numbers counted, the extrapolated totals (taking into account the proportion of counted waterholes vs. available waterholes on each farm) and the densities for the five main game species (warthog, kudu, oryx, eland and red hartebeest) across the Conservancy are shown in Table 6. 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 are limited data available on the drinking frequency of these species.

Camera traps placed near water troughs on some farms provided data showing similar demographic make-ups of the species to those recorded by observers, suggesting there may be scope to compare camera trap data with observer data to supplement future waterhole count.

Table 6. Actual numbers of animals counted, extrapolated totals and densities (animals per 1000ha) for the five main game species in the Waterberg conservancy

Species	Actual No. Counted	Extrapolated Total	Density (per 1000 ha)
Warthog ($a=1$)	1983	5666	142.6
Kudu ($a=1$)	386	1103	27.8
Oryx ($a=5$)	392	5600	140.9
Eland ($a=5$)	227	3243	81.6
Red Hartebeest ($a=1$ - $a=5$)	84	240-1200	6-30.2

The change in densities of the five main game species, in combination with rainfall, is shown in Figure 14. During the past 18 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 since 1995 and have fallen this year. Similarly, warthog and oryx numbers have fallen this year, though not below densities reached in previous years. Game densities often have a delayed correlation with precipitation, but this year's decline in densities may mean that there is a two-year delay since 2011 had a decrease in rainfall, or that the drought

experienced in 2013 had very imminent effects on game densities.

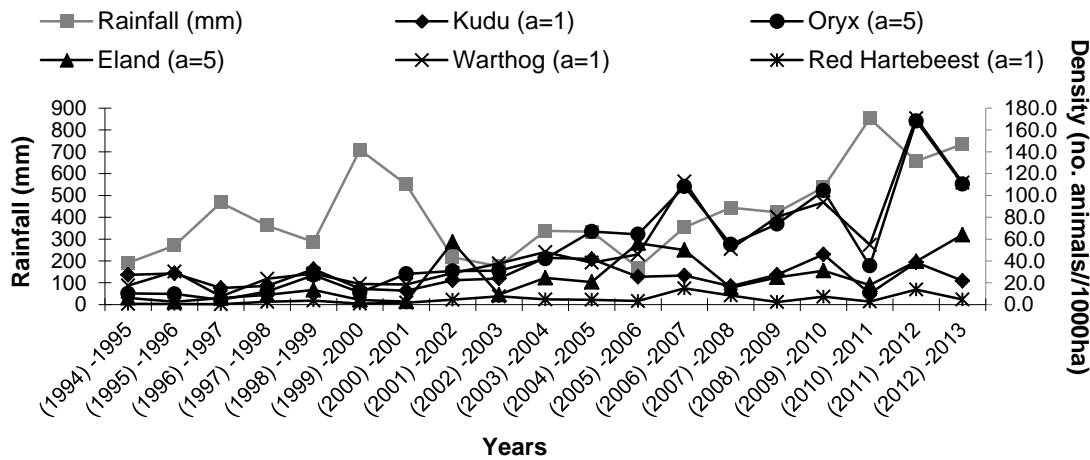


Figure 14. Density estimates (animals per 1000ha) for the five main species across the Waterberg Conservancy 1995-2013

3. Fixed Point Photography

To monitor long-term vegetation changes, CCF has taken fixed-point photographs since 1998. In this period, photographs were taken during the dry and cold season (May - Jul) at 11 locations at farms Elandsvreugde and Osonanga, using digital cameras. We created a digital database consisting of all pictures. CCF former intern Kim Moore (BSc Wildlife Management) is currently analysing the 14-year dataset in order to determine the rate of encroachment on CCF farms. Photographs were standardised by matching landscape features using the image-editing programme GIMP 2.0. Grids will be placed over the photos and land cover will be scored and compared across sites. Following this procedure, relationships amongst variables will be explored using regression and correlation statistics.

4. 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 may alleviate electricity shortages projected to affect Namibia in the near future (see Bushblok section).

We are currently working on a scientific publication involving surveys in areas previously thinned. The aim of the surveys 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.

CCF will utilise the results obtained as a baseline for further ecological research and monitoring of harvested sites. From this survey we will be 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.

5. Swing Gates

A paper on the effectiveness of swing gates and their cost effectiveness as a predator exclusion method, when compared to electric fencing, has been rewritten and will be submitted to the African Journal of Ecology in early 2014.

The study concluded that swing gates may be an effective and economic alternative to electric fencing by reducing hole digging and thus have the potential of combining protection of livestock and game species with a reduction of lethal predator control of threatened carnivore species.

6. CCF Rhino Reserve

CCF continues to monitor its 14,640-ha rhino reserve, where a small population of south-western black rhinos (*Diceros bicornis bicornis*) resides. The rhinos are part of the Namibian Ministry of Environment and Tourism's (MET) Black Rhino Custodian Programme.

The rhinos are monitored by trail cameras deployed across the reserve at key points that include waterholes, dung middens, game trails and roads (Figure 15). Water has now returned to all of our natural waterholes within the reserve and the temporary water troughs have been removed. 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 and afternoon- and night-time monitoring patrols are also conducted, while a number of additional, hi-tech monitoring methods are under investigation.



Figure 15. Recent photo of rhino male and some warthogs taken by a remote *Reconyx PC800* camera trap.

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.

7. Play Tree Research

Namibian cheetahs are known to frequent play trees for territorial marking and social interactions. Olfactory communication, such as scent-marking, plays a vital role in the conspecific interactions of numerous mammalian species because it allows for communication in the absence of the sender and every mark can possess detailed information about the sender. Namibian cheetahs are highly selective when choosing sites for scent-marking and these are normally large and visually conspicuous trees, often referred to as "playtrees."

In 2005, a camera survey was started at a number of play trees, both on CCF land and neighbouring farms as part of developing census techniques for free ranging cheetahs. Identifying potential locations for camera placement is crucial for increasing the probability of cheetah captures. During the years of the camera trapping survey, X # of photos were taken and analysed. This data has been used as a part of Ezequiel Fabiano's PhD thesis and a paper is currently in preparation for journal submission.

Playtrees, once present and identified in a habitat, can provide valuable census data on known individuals occupying a particular home-range. However, there are instances where playtrees are difficult to identify or are absent in a given habitat.

CCF's camera trap data at playtrees has been used in the beginning of 2013 year for an undergraduate thesis by intern, Eli Walker who is now part of CCF's staff. The purpose of this study was to determine the characteristics of the playtrees that make them suitable for use by cheetahs. A nominal logistic regression was used to determine the physical characteristics most influential in separating high-use playtrees from low-use playtrees. Results show that cheetahs select playtrees based on visibility, which suggests that visual conspicuousness is a driving factor in cheetah scent-post selection, because it enables cheetahs to maximise each mark's detectability by conspecifics. These results provide

meaningful insight into the spatial structuring and ecology of Namibian cheetahs. Eli is currently preparing his thesis for publication.

In January 2013 a team of three CCF's staff members, accompanied by Tiger, a CCF scat detection Springer spaniel dog, visited a number of play trees on a local farmer's land to collect scat samples, which are used to analyse cheetahs' diet and study biomedical aspects. The team also took pictures of the trees themselves as well as quantified key characteristics around play trees including visitation rates by cheetahs, prey abundance, habitat type and presence of other predators, to look into which physical and environmental characteristics influence the selection of these special trees. A GPS device helped to ensure that the same trees used in the original study were measured. During this visit, the CCF team measured and photographed 10 different play trees that were up to 30km apart in a two-day period. CCF intends to expand this project to other areas of the country in the near future.

8. Alien Invasive Species Removal

CCF is known for helping to rescue and protect cheetahs. Yet, this is only a part of what we do in our mission to save this threatened species and the habitat in which it lives. A team consisting of staff, interns, volunteers, and Earthwatch volunteer assisted with the removal of alien invasive species: the Mexican poppy (*Aregmone ochroleuca*), prickly pear (*Opuntia spp.*) and the thorn-apple (*Datura innoxia*) present on CCF farms.

Our first priority, because the thorn-apple is toxic, was to remove all of these plants from the areas around our Model Farm that our goat and cattle herds have access to. Due to limited rainfall during this period, we had limited germination from most weeds. Most removals were conducted at farm Janhelpman at cattle posts. CCF has also started to harvest prickly pear, another alien invasive. Plants that are non-toxic are cut and sundried before they are fed as fodder for livestock.

G. Scientific Publications and Papers Presented

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

Papers published:

- Cho YS, Hu L, Hou H, Lee H, Xu J, Kwon S, Oh S, Kim H-K, Jho S, Kim S, Shin Y-A, Kim BC, Kim H, Kim C-U, Luo S-J, Johnson W, Schmidt-Küntzel A, Turner JA, Marker L, Harper C, Miller S, Jacobs W, Bertola L, Kim TH, Lee S, Zhou Q, Jung H-J, Xu X, Gadhvi P, Xu P, Xiong Y, Luo Y, Pan S, Gou C, Chu X, Zhang J, Liu S, He J, Chen Y, Yang L, Yang Y, He J, Liu S, Wang J, Kim CH, Kim J-S, Hwang S, Ko J, Kim C-B, Kim S, Bayarlkhagva D, Paek WK, Kim S-J, O'Brien SJ, Wang J, Bhak J. **The tiger genome and comparative analysis with other feline genomes.** *Nature Communications*, **4:2433**. 2013.
- Epps CW, Castillo JA, Schmidt-Küntzel, A., du Preez P, Stuart-Hill G, Jago M, Naidoo R. **Contrasting historical and recent gene flow among African buffalo herds in the Caprivi Strip of Namibia.** *Journal of Heredity* 2013 March-April, cover; 104(2):172-81.
- Gehring, T.M., VerCauteren, K., Landry, J-M., Marker, L. **Dogs as mediators of conservation conflicts.** Book Chapter. In *Free-Ranging Dogs and Wildlife Conservation*. Ed: Gompper, M.E. Oxford University Press, Oxford. 336 pages. 2013.
- Johnson, S., Marker, L., Mengersen, K., Gordon, C.H., Melzheimer, J., Schmidt-Küntzel, A., Nghikembua, M., Fabiano E., Henghali, J., Wachter, B., **Modelling the viability of the free-ranging cheetah**

- population in Namibia: an object-oriented Bayesian network approach.** *Ecosphere*. 4(7):90. 2013.
- Potgeiter, G. C., Marker, L.L., Kerley, G.I.H., Avenant, N. **Why Namibian farmers are satisfied with their livestock guarding dogs.** *Human Dimensions in Wildlife*. 8 (6), 403-415. 2013.
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- Fabiano E.C., Nghikembua M. T., Eizirik E, Marker L.L, **Using remote camera traps for surveying and monitoring trends in abundance and density; a case study of a cheetah population in north-central Namibia.** (in revision)
- Nghikembua M., Harris J., Tregenza T., Marker L. **Interactions between bush encroachment and large carnivore habitat selection: a case study on GPS satellite collared cheetahs in northern Namibia.** *Journal of Endangered Species Research*. (in review)
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- 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.** (in review)
- Switzer A.D., Munson L., Wilkins P., Hoffmaster A., Marker L. **Free-ranging Namibian farmland cheetahs (*Acinonyx jubatus*) demonstrate immunologic naivety to anthrax (*Bacillus anthracis*).** (in review)

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- Fabiano E.C, Marker L, Schmidt-Küntzel A, Eizirik E. **Estimating the effective population size of the Namibian cheetah *Acinonyx jubatus*: comparison of analytical approaches and assessment of the impact of vital rate variation.**
- Fabiano E.C, Marker L. **Assessing carnivores and prey temporal interactions in north-central Namibia.**
- Fabiano E.C, Marker L, Nghikembua M. **A comparison of cheetah abundance and activity patterns between hunting and non-hunting commercial conservancies in north-central Namibia.**
- Fabiano E.C, Sandro B, Schmidt-Küntzel A, Marker L, Eizirik E. **Inferring the historical demography of the Namibian cheetah population using Bayesian analysis of microsatellite data.**
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Nghikembua, M., Morre, K., and Marker, L. **Fixed-point photography**

Ngaturue D. Muroua, Matti T. Nghikembua, Laurie L. Marker, and Richard M. Jeo. **Ungulate distribution in different habitat on commercial Farmlands in North-Central Namibia**

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IV. CONSERVATION

Whether perceived or real, livestock loss to cheetahs is an economic and emotional issue as 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

CCF's Livestock Guarding Dog (LSGD) programme continues to be one of the most successful conservation projects to assist farmers with predator conflict in Namibia. As of December 2013 there were 142 dogs (68M, 74F) alive in the programme, of which 111 (55M, 54F) are working dogs and 31 (11M, 20F) are retired or pets: 25 remain in Namibia, four reside in South Africa and two in the USA (Table 7).

Table 7. *CCF's Livestock Guarding Dog Programm - Alive dogs to 31 December, 2013.*

Location	Total	M	F
Commercial	43	22	21
Commercial (CCF)	10	4	6
Communal	17	10	7
Emerging Commercial	27	11	16
Resettled	7	6	1

South Africa	2	1	1
Kenya	1	1	0
Tanzania	4	2	2
Total Working	111	57	54
Retired/pet (breeding)	31	11	20
Total dogs alive	142	68	74

Currently, there are 25 (7M,18F) intact dogs in the programme, of which 11 (3M,8F) reside at CCF as working dogs (2M,6F) or pets (1M,2F), 7 (3M,4F) work on commercial farms, 4 (1M,3F) are pets, 3 (1M,2F) are in South Africa. One intact female, Cappuccino, resides in the USA and is no longer in the programme. Four of the 26 intact dogs, all females, are close to or past breeding age (Table 8).

Table 8. Intact livestock guarding dogs as of 31 December 2013.

SB#	Dog Name	Born	Sex	Working/Pet	Farm Type	Country
157	Natasha	2/3/2001	F	Pet	N/A	South Africa
205	Cheetah	12/15/2001	F	Pet	Commercial	Namibia
269	Uschi	9/4/2004	F	Working (CCF)	Commercial	Namibia
277	Uhtaya	9/30/2004	M	Working	N/A	South Africa
285	Amos	3/18/2005	M	Working (CCF)	Commercial	Namibia
287	Penda	7/16/2005	F	Pet (CCF)	Commercial	Namibia
298	Branka	8/14/2006	F	Pet	N/A	Namibia
324	Wagter	9/18/2007	M	Working	Commercial	Namibia
347	Isha	2/6/2008	F	Pet (CCF)	Commercial	Namibia
382	Hediye	3/5/2009	F	Working (CCF)	Commercial	Namibia
392	Tiny	6/29/2009	F	Working	Commercial	Namibia
423	Max	end Jan-10	M	Working	Commercial	Namibia
451	Kiri	2/10/2010	F	Working (CCF)	Commercial	Namibia
424	Aleya	7/5/2010	F	Working (CCF)	Commercial	Namibia
430	Feliz	7/30/2010	F	Working (CCF)	Commercial	Namibia
407	Cappuccino	8/5/2010	F	Pet	N/A	USA
405	Pandora	8/5/2010	F	Working	N/A	South Africa
431	Firat	8/31/2010	M	Working (CCF)	Commercial	Namibia
456	Kaspaas	2/1/2012	M	Working	Commercial	Namibia
458	Nala	2/1/2012	F	Pet	N/A	Namibia
468	Kandake	8/11/2012	F	Working	Commercial	Namibia
485	Nesbit	2/17/2013	M	Pet (CCF)	Commercial	Namibia
487	Lady	2/17/2013	F	Working	Commercial	Namibia
490	Taya	2/17/2013	F	Working (CCF)	Commercial	Namibia
498	!Us	4/2/2013	F	Working	Commercial	Namibia
507	Repet	4/11/2013	F	Working	Communal	Namibia

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. Gebhardt Nikanor has worked on the programme since he joined CCF over 10 years ago. Chavoux Luyt and Stephanie Cunningham also assisted with this project during the first six months of 2013. Anja Bradley returned from the UK in June to manage the programme during the second half of 2013.

2. Breeding and Puppy Placements

During this period, a total of 49 puppies (29M, 20F) from five litters were born. After conducting pre-approval farm visits, a total of 39 (23M, 16F) of these puppies were placed as working dogs. Six (1M, 5F) puppies were left intact for future breeding. Nine (6M, 3F) of the 49 puppies were stillborn or died shortly after birth (Table 9). Kandake (SB# 468), who lives on a commercial farm, was thought to be pregnant and due to give birth in the end of December, but never went in to labour.

Table 9. Puppies born and type of placement. 1 Jan – 31 Dec-2013.

Sire (SB#)	Amos (285)		Amos (285)		Firat (431)		Firat (431)		Firat (431)		Total	
	Hediye (382)		Cappuccino (407)		Kiri (451)		Penda (287)		Aleya (424)			
DOB:	05-Feb-13		17-Feb-13		02-Apr-13		11-Apr-13		18-Aug-13			
Sex:	M	F	M	F	M	F	M	F	M	F	M	F
Commercial farm	3	0	1	2	1	6	0	0	0	0	5	8
Communal farm	0	0	2	0	0	0	4	1	2	2	8	3
Emerging farm	1	1	0	1	1	1	2	1	1	1	5	5
Re-settled farm	0	0	0	0	0	2	3	0	0	0	3	2
Pet/breeder	0	0	1	1	0	0	0	0	0	0	1	1
Dead	4	1	0	1	0	1	0	0	1	0	5	3
Total Puppies	8	2	4	5	2	10	9	2	4	3	27	22
Intact	0	0	1	2	0	1	0	2	0	0	1	5

Hediye (SB# 382), a Kangal female, was bred for the second time to Amos (SB# 285) at the end of November and a litter of 10 (8M, 2F) puppies were born on 5 February 2012. Of the ten puppies, three males were stillborn, one male puppy died due to a bacterial infection, and a female puppy suffered a post-anaesthetic death following sterilisation. Of the remaining five puppies, after confirming their good health, three (3M) puppies went to commercial farms and two (1M, 1F) went to emerging commercial farmers.

Cappuccino (SB# 407), one of our puppies born by artificial insemination (AI) in 2010 and placed as a breeding dog in 2011 with the US ambassador to Namibia in Windhoek, was brought to CCF for breeding purposes at the beginning of December. She was bred to Amos (SB# 285) and had her first litter of nine (4M, 5F) puppies on 17 February 2013 at the Ambassador's home in Windhoek. One female was stillborn. The remaining eight puppies were brought to CCF when they were five weeks old. Three puppies (1M, 2F) were selected for future breeding and kept intact (one male and one female were placed with commercial farmers, and one female, Taya, is at CCF). Placement of the remaining four puppies included one male on a commercial farm, two males on communal farms, and a female on an emerging commercial farm. A female puppy that was inept as a working dog due to her character and her long coat went as a pet to Dr. Suzan Murray, Chief Veterinarian and Head of the Department of Animal Health Exams at the Smithsonian Institution's National Zoo (US).

Kiri (SB# 451), a Kangal imported from Germany by her owner and brought to CCF for breeding purposes in 2012, was bred to our Kangal male Firat (SB # 431) for the second time. She gave birth to a litter of 12 puppies (4M., 8F) on 2 April 2013. One female was stillborn but the remaining 11 puppies thrived. Of these puppies, five females went to commercial farms, three (2M, 1F) went to emerging commercial farms and the final two males were placed with resettled farmers. One female puppy was kept intact for future breeding purposes and was placed on an emerging commercial farm. Unfortunately this placement did not work out and she was returned to CCF in June 2013. She was placed with a commercial farmer in July 2013.

Penda (SB# 287) was bred to our Kangal male Firat (SB# 431) in February 2013 and gave birth to a litter of 11 (9M, 2F) puppies on 11 April 2013, all of whom thrived. Two females from this litter were kept intact. One was placed with a communal farmer and the other went to an emerging commercial farm. The nine male puppies were placed, one with an emerging commercial farmer, four with resettled farmers and four on communal farms.

Aleya (SB# 424) was bred to our Kangal male Firat (SB# 431) in June 2013 and gave birth to seven puppies (4M, 3F) on 18 August 2013. One puppy died shortly after birth but the remaining six puppies (3M, 3F) thrived. Two puppies (1M, 1F) were placed with emerging commercial farmers. The remaining four puppies (2M, 2F) were sent to the Ruaha Carnivore Project (RCP) in Tanzania to protect livestock of Maasai and Barabaig farmers and help establish a new livestock guarding dog programme.

The 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.

3. Follow-Up on Prior Placements and Health Survey

CCF staff visited 97 dogs during this period, including 63 adult dogs, 15 of which were puppies that were placed in 2012 and 34 of the 39 puppies placed in 2013.

Five puppies born to Kiri (SB# 451) in February 2012 received their annual visit in February 2013 as part of the standard dog visits to ensure that they are properly cared for and working correctly. The puppies born to Feliz (SB# 430) in August and to Aleya (SB# 424) in September 2012 were visited in February and April, respectively, as they turned six months old, for routine health checks and to check on the puppies training and working success. All were reported to be working well apart from two working dogs, a female puppy (SB# 465) and an adult Anatolian shepherd (SB# 367) working with her, both of whom were reported dead from a snakebite on the same day. They then received their annual visits in August and September 2013 respectively.

Eleven puppies born to Hediye (SB# 382) and Cappuccino (SB# 407) in February 2013 and 22 puppies born to Kiri (SB# 451) and Penda (SB# 287) in April 2013 received their three-month and six-month visits. As part of standard procedure, the puppies were vaccinated against rabies and other canine diseases during the three-month visits. The female puppy (SB# 490) residing at CCF also received follow-up care and vaccinations.

Lucky (SB# 495), one of Kiri's puppies born in April 2013, was hit by a car when crossing a road on the emerging commercial farm's property with his herder and livestock. Lucky had no history of chasing

cars. He was taken to a veterinary hospital in Windhoek where his left femoral head was removed and his broken front and back right legs splinted. The owner could not cover the costs of the surgery so he turned the dog over to CCF, where he is currently in recovery. Due to the injuries he sustained he will most likely have to be re-homed as a pet after his recovery.

Beer (SB# 486), born in February 2013 and working on a commercial farm, died of unknown causes on 28 July. He had a sudden loss of appetite and was found dead in the kraal. The body was buried before we could investigate further.

Trixie (SB# 510) an intact female placed on an emerging commercial farm in June was confiscated at her six-month visit on 24 October 2013. She was found extremely underweight and in respiratory distress and was returned to CCF immediately. X-rays showed a pleural effusion causing the respiratory distress but, despite treatment, she did not recover and was euthanized on 25 October 2013. Necropsy confirmed congenital heart failure.

Pingo (SB# 513) was confiscated from a resettled farm on 23 October due to severe malnutrition. He remained at CCF for one month whilst he regained weight and was re-homed on 22 November 2013.

On 24 April 2013 a male dog, Otjtotongwe (SB# 352), was confiscated from his farm during a visit by CCF staff. He was in poor condition due to an untreated tick-borne disease resulting in a lowered immune system. He was malnourished and found to be suffering from chronic pyoderma and alopecia, resulting in severe hair loss. He slowly recovered following intensive veterinary care and remained at CCF until the 27 November 2013 when he was re-homed as a working dog to a commercial farmer.

Cheetah (SB# 387), a female dog placed on an emerging commercial farm in the Gobabis area in 2009, died on 16 May. She was shot by MET officials after being used by the workers to hunt on a neighbouring farm in the owner's absence. Until this time the dog had worked very well on the farm and the progress reports were always positive. We met with MET to discuss this case and their standard procedures. It has been agreed that, in future, CCF will be contacted first so that we can remove a dog from the farm in such cases.

Kandas (SB# 373) was brought back to CCF earlier this year as her owners no longer visited their farm and wanted us to find a new working home for her. She was placed with a communal farmer but continuously chased baboons in the area. On two occasions the baboons injured her and she was left with wounds requiring veterinary attention at CCF. Following the second attack, Kandas sustained injuries which resulted in the amputation of a toe. A decision was made to place her as a pet dog and she was re-homed with one of our long-standing farmers on 4 July. Unfortunately she continued to escape from the enclosed garden and was returned to CCF. She now lives with CCF staff.

Spikey (SB# 450), a male working dog who had been re-homed at a communal farm last year following malnourishment, was brought back to CCF in May as this placement did not work. He was subsequently re-homed in June to a farmer who already has one of CCF's dogs and is reported to be working well.

Tjevera (SB# 371) was confiscated from an emerging commercial farm on 21 November during a routine annual health check. She was severely malnourished and was suffering from untreated tick wounds to the left ear. She is currently staying at the CCF Centre whilst she receives treatment but will be re-homed as soon as she is deemed physically fit once again.

Nesbit (SB# 485), a breeding male pet placement, was collected and returned to CCF on 29 November 2013. He was born on 17 February 2013 to Cappuccino and was kept as an intact male to preserve this bloodline. Unfortunately, his owners were no longer able to provide a pet home for him. He now lives in the kraal at CCF.

On 12 December 2013, CCF was informed that Wagter (SB# 508), a male working dog on a resettled farm, was killed by a black mamba on 9 December. The owner has applied for another dog when puppies become available.

Hembwa (SB #292), who lived on an emerging commercial farm, was euthanized on 21 August 2013. She had been anorexic for weeks and was diagnosed with renal failure by the Otjiwarongo Veterinary Clinic. Despite supportive care and treatments, she showed no sign of improvement.

Esfahan (SB# 197), a working dog on a commercial farm, was reported to be in a large amount of pain due to a tumour growing on her hind leg. Esfahan's owners had taken excellent care of her but the pain was not manageable anymore despite medication. The owners elected euthanasia on 23 August 2013.

Other than routine vaccinations, CCF provides de-worming tablets, veterinary supplies for minor injuries, and topical anti-parasitic agents when available from donations. The medical supplies ensure that the dogs' health is a priority. Dog food is offered for purchase at a discounted rate to the farmers to encourage that a correct diet is followed consistently. The dogs' working success has been correlated with good care from the owner. While many farmers are part-time and thus their attention is divided between their farm and other business activities, this is not a problem if they have good herders who assist with livestock and dog care. It is important that the owners are in touch with the developmental phases of their dogs so that problems can be dealt with immediately as they occur, preventing bad habits developing and the dog failing as a result. When dogs are found to be unhealthy or not doing their job, they are removed from that specific farm, evaluated, and placed on another farm if deemed pertinent or placed as pets if the dogs are no longer able to work as livestock guarding dogs due to health or behavioural problems.

4. Dog Health

On 17 March 2013 Kandas (SB#373) escaped from the kraal after hearing a baboon near the workers' houses. She sustained one 7 cm laceration to the dorsal neck and 2x smaller cuts/punctures cranially. The wounds were cleaned and surgically repaired under anaesthesia and a course of antibiotics and pain medication was prescribed. After her wounds were healed she was placed on a new farm. On the 11 May she had another fight with a baboon and sustained more extensive wounds including deep wounds of the dorsum of the neck (same area as last time) as well as a deep laceration into the right paw which severed at least one flexor tendon. The dog was anaesthetised and the wounds were all thoroughly cleaned and surgically repaired. On 31 of May the digit was surgically removed as it was not healing and remained infected. She was then placed as a pet as she was deemed unfit to be a livestock guarding dog given her history fighting baboons rather than staying with the flock. Kandas has been retired.

On 25 April 2013, a 5-year-old castrated male, Otjitotongwe (SB#352), was visited as part of the tongue cancer study (see Squamous Cell Carcinoma (SCC) Research, section II.A.5.). Due to concerns about his health he was taken back to CCF and the study was postponed. He was emaciated (1/5 Body Condition Score) and had a severe skin infection over his whole face, left forelimb, and peri-anal area. A blood test confirmed tick borne disease (*Ehrlichia canis*). He was treated with a high dose Doxycycline antibiotic for

3 weeks and gained weight. His skin condition and loss of fur (alopecia) were the result of a chronic bacterial infection (pyoderma). After resolution of the tick borne disease, his antibiotic treatment was switched to Cephalexin, which is more specific for the skin. His skin continued to improve and there was significant hair re-growth. He was rehomed to a commercial farm on 27 November 2013 as a working dog.

Breeding males Amos and Firat were in a fight on 27 August. Amos sustained injuries, which healed very slowly. He was treated intensely by the clinic team and is now working again.

All of CCF's Anatolian shepherd and Kangal dogs, as well as the scat-detection dogs, are enrolled in a preventative medicine programme. Every month a broad-spectrum anti-parasite product for endoparasites is administered and the product utilised is rotated continually to help prevent development of resistance. Every four weeks an ectoparasite prevention product is applied topically to prevent fleas, ticks and mites. Each dog receives vaccinations annually against canine distemper virus, canine parvovirus, adenovirus, parainfluenza virus, and rabies virus. Blood work is run annually to evaluate overall health.

5. Squamous Cell Carcinoma (SCC) Research

In April 2013 the CCF veterinary team started a chemotherapy treatment trial on seven Anatolian shepherd dogs with lingual squamous cell carcinoma (SCC). Dogs in the study included female (SB# 292), male (SB# 352), female (SB# 197), female (SB# 278), female (S # 306), male (SB# 365), and female (SB# 382). All had previously been diagnosed with lingual SCC (tongue cancer), pre-neoplastic lesions, or inflammation/hyperplasia via tongue biopsy. The chemotherapy protocol involves a depo-medrol treatment and then three sequential depo-medrol and 5-Fluorouracil treatment sessions spaced three weeks apart with a final session to perform a biopsy only to determine if therapy was successful. Male (SB# 365) was not started in the trial as he had concurrent health concerns, he had a tick borne disease *Echlichia canis* and a skin condition; chronic pyoderma with alopecia. Female (SB# 197) did not continue with the trial as her appetite dropped following the first treatment and the owner had concerns over her general well being given that she was 12 years old and had concurrent health concerns. By the end of July, five dogs had completed their treatment.

The tongue biopsy samples were sent to pathologist Dr. Karen Terio's laboratory from the University of Illinois (USA) in September 2013. We are awaiting analysis to determine the efficacy of the chemotherapy in reversing the microscopic progression of the tongue cancer.

B. CCF Model Farm

CCF's farm provides the opportunity to practice and experiment with optimal 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.

Table 10 provides an overview of CCF's livestock for of the period January-December 2013.

Table 10. CCF Cattle and Livestock 1-Jan-2013 – 31-Dec-2013

		1- Jan- 13	Born	Purchased	Sold	Died	Slaughtered/ CCF use	31- Dec- 13
Cattle	M	4	0	0	0	0	0	4
	Oxen/weaners	61	98	0	2	0	0	157
	F	442	83	0	30	4	3	488
Boer Goats	M	1	0	2	2	0	0	1
	Wethers/kids	19	22	0	21	4	0	16
	F	50	20	0	9	3	1	57
Dairy Goats	M	8	2	0	3	1	0	6
	Wethers/kids	10	11	0	8	1	0	12
	F	34	11	0	0	2	0	43
Damara Sheep	M	1	0	0	0	0	0	1
	Wethers/kids	24	4	0	13	1	10	4
	F	46	1	0	2	0	0	45
Donkeys	All	89	11	288	0	12	375	1
Horses	All	30	0	49	0	0	76	3

During this period, CCF farm staff were active in fence repairs and basic farm maintenance. Work continues on firebreaks, road maintenance, as well as weed control and eradication of alien species.

1. Cattle

CCF cattle are managed in a 100% predator-friendly environment. A cow-calf system is in place and weaners are sold before 1.5 years based on market conditions. Factors such as severe bush encroachment and the worst drought Namibia has experienced in many years contributed to making 2013 a challenging year. However, with proper grazing management, no forced sales were necessary. Normal marketing will resume when prices recover. Culled animals will be sold earlier.

Normal management is done in coordination with nature, therefore mating seasons differ yearly but normally it is from January to the end of April. This period can be extended since CCF only owns four bulls instead of the usual 12-15 bulls. However, when necessary, CCF utilises six to eight bulls that are on loan. Pregnancy determination is normally done in July or August. Dehorning and castration are done as needed during the calving season.

By 31 December 2013 CCF had 649 cattle, compared to 507 in 2012. Total cattle production for 2013 included 181 calves born (98M/weaners, 83F), 4 dead (4F), 32 sold (2M/oxen/weaners, 30F) and 3 (3F) slaughtered for own consumption. CCF also rents grazing land to three farmers for their cattle (approximately 500 head total).

Vaccination program:

CCF firmly believes in farming with animals adapted to the Namibian climate with a strong natural resistance to most diseases. As such, unnecessary vaccinations are avoided to minimise costs and reduce stress on the animals. Compulsory brucellosis vaccinations are administered, and this year CCF

vaccinated all cheetahs, livestock guarding dogs, and small stock against Anthrax. Other vaccinations are done purely as needed. Periodical internal as well as external parasite control is also in place.

Other

Since cattle falls under the Fanmeat scheme of Namibia, CCF must ensure compliance with the EU and the Fanmeat scheme. The CCF cattle recordkeeping and data have passed inspection every year, and our cattle operation is mentioned by the Directorate of Veterinary Services as an excellent standard when it comes to the fulfilment of these requirements.

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 in order for them to form a close bond with the livestock. As part of CCF's Model Farm, dogs and small stock are used during farmer-training programmes as a method to raise livestock around predators without using lethal methods to prevent predation. CCF's small stock herder Armas Shaanika, 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 the 13 Anatolian shepherd and Kangal dogs mentioned in the previous section, as of December 2013, the kraal contains 61 (6M, 43F, 12 wethers) dairy goats, 74 (1M, 57F, 16 wethers) Boer goats, and 50 (1M, 45F, 4 wethers) Damara sheep.

CCF staff continued to work on increasing the amount of shade and rain protection for the dairy goats. The kraal staff and certain interns are also working on updating the bucks' housing area, as they do not go out to graze, so they will have more enrichment and better housing and in turn will be happier and healthier. 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 70 at the beginning of January 2013, and 74 (1M, 57F, 16 wethers) at the end of December 2013. During the year 56 does were bred. Of these, 26 does gave birth to 42 kids (22M, 20F), while 17 does bred in August are due to kid in January 2014.

Between the end of April and the beginning of May 16 healthy kids were born from 10 does bred from mid-November to the end of December 2012, for a kidding rate of 41% with a male-to-female kid ratio of 7:9. Five does gave birth to a single kid, four gave birth to twins, and one gave birth to triplets. Twelve does bred during the same period did not kid, possibly due to old age or low fertility of the buck used.

In July, 17 does were bred. From these does, 16 gave birth in December and one was still pregnant at the end of this period. The 16 does gave birth to 26 kids (15M, 11F) with five losses (3M, 2F). Two of these losses were male stillbirths from doe 10-12. This doe was a young mom and the kids were born prematurely without fur. Two females that belonged to does 52-11 and 49-11 were very small, weak, and premature. The last loss was a male that belonged to doe 21-9 and was healthy until it stopped eating and was slowly dying despite clinical help; the decision was made to euthanize him.

The kidding rate for the December births was 94% with a male-to-female ratio of 15:11. Six does gave birth to a single kid and ten does gave birth to two kids. Possibly due to the drought during the months of pregnancy, many of the kids were born prematurely. Some of the kids were fostered to other mothers because their own mothers rejected them and numerous kids were bottle fed because of being weak or very small. This is not common practice at CCF for Boer kids. Table 11 below shows the breakdown of Boer goats born throughout 2013.

Table 11. Boer Goat Births 1-Jan-13 – 31-Dec-13

SBN	Sex	Birth Date	Sire	Dam	Alive/Stillborn/Died
267	F	28/04/2013	266	71	Alive
268	F	28/04/2013	266	71	Alive
269	F	28/04/2013	266	71	Alive
270	M	04/05/2013	266	115	Alive
271	F	04/05/2013	266	115	Alive
272	M	05/05/2013	266	64	Alive
273	M	05/05/2013	266	73	Alive
274	M	06/05/2013	266	49	Alive
275	F	06/05/2013	266	49	Alive
276	M	07/05/2013	266	17	Alive
277	M	07/05/2013	266	30	Alive
278	M	07/05/2013	266	30	Alive
279	F	07/05/2013	266	152	Alive
280	F	09/05/2013	266	69	Alive
282	F	29/04/2013	266	281	Alive
283	F	29/04/2013	266	281	Alive
285	M	02/12/2013	266	240	Alive
286	F	02/12/2013	266	240	Died
287	M	05/12/2013	266	225	Alive
288	F	05/12/2013	266	225	Alive
289	F	05/12/2013	266	219	Alive
290	M	09/12/2013	266	226	Alive
291	F	09/12/2013	266	226	Alive
292	M	09/12/2013	266	155	Died
293	F	09/12/2013	266	155	Alive
294	M	10/12/2013	266	224	Alive
295	F	10/12/2013	266	224	Died
296	M	10/12/2013	266	264	Alive
297	M	10/12/2013	266	264	Alive
298	M	12/12/2013	266	220	Alive
299	M	13/12/2013	266	231	Alive
300	F	13/12/2013	266	243	Alive
301	F	14/12/2013	266	6	Alive
302	M	15/12/2013	266	253	Stillborn
303	M	15/12/2013	266	253	Stillborn
304	M	18/12/2013	266	227	Alive

305	F	26/12/2013	266	62	Alive
306	F	26/12/2013	266	62	Alive
307	M	27/12/2013	266	149	Alive
308	F	27/12/2013	266	149	Alive
309	M	28/12/2013	266	212	Alive
310	M	28/12/2013	266	212	Alive

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. During 2013, one female goat was slaughtered due to a broken leg and 32 goats were sold (2M, 9F, 21 wethers). In addition, seven deaths occurred. One female died from having a low red blood cell count and one wether died due to unknown reasons. Three deaths were premature kids (SB#: 286(F), 292(M), 295(F)) and two were male stillbirths from doe #303 (SB#: 302, 303).

- **Damara Sheep**

The Damara sheep herd stood at 50 (1M, 45F, 4 wethers) at the end of this reporting period, down from 71 in January 2013.

Eight sheep were mated from mid-December 2012 to late January 2013 and finished lambing by May 2013 with a conception rate of 63%. In total we had five lambs born (4M, 1F) (see Table 12). No other lambs were born this year, but 46 ewes were bred from mid-August to the end of October and are due to give birth in January 2014.

Table 12. Damara sheep births 1-Jan – 31-Dec-13

SBN	Sex	Birth Date	Sire	Dam	Alive/Dead
218	M	07/04/2013	217	190	Alive
219	M	08/05/2013	217	182	Alive
220	F	09/05/2013	217	192	Alive
221	M	21/05/2013	217	184	Alive
222	M	24/05/2013	217	179	Alive

The herd size of the Damara sheep is controlled by replacing old ewes and wethers through selling and culling. During 2013, two ewes and 13 wethers were sold, while 10 wethers were slaughtered for our kitchen. One wether died after one of our younger dogs chased and ran it into the fence causing the sheep to break its neck.

- **Dairy Goats**

The dairy goat herd increased from 52 on 1 January 2013 to 61 (6M, 43F, 12 wethers) by 31 December 2013.

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-four kids (13M, 11F) were born during 2013. Of these, eight kids (4M, 4F) were born between March and May 2013 to four of seven does (including one Boer dam bred to a Dairy sire) that were bred between October and December of 2012; one gave birth to a single kid, two gave birth to twins and one gave birth to triplets. Sixteen kids (9M, 7F) were

born to 10 does bred between February and May 2013; four gave birth to a single kid and six gave birth to two kids, with a kidding percentage of 100%.

Between August and November 2013, 21 does were bred and are due to kid between January and April 2014. Of these, five were bred through AI (artificial insemination): Yarrow (SB# 45), Jasmin (SB# 44), Noir (SB# 50), Opal (SB# 47), and Safire (SB# 48).

Table 13 below shows the breeding and kidding times for 33 of CCF's dairy does throughout 2013. Table 14 below shows the breakdown of the dairy goat kids that were born between 1st Jan-31th Dec-2013 with the parents, studbook numbers and sex of the kids.

Table 13. Dairy goat breeding and kidding chart 2013

Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2014	Feb 2014	Mar 2014	Apr 2014
Himba Goat			Kid													
Anne-Sophie					Kid					Bred						Kid
Josephine					Kid					Bred						Kid
Tina					Kid											
Rosie		Bred					Kid									
Kate		Bred					Kid									
Gretel		Bred					Kid									
Margret		Bred					Kid									
Lily		Bred					Kid									
Edelweiss		Bred					Kid				Bred					Kid
Dolly		Bred					Kid									
Zinfandel				Bred					Kid							
Magnolia				Bred					Kid							
Chenin Blanc					Bred					Kid						
Camela							Bred			Died						
Kimberly								Bred					Kid			
Diane										Bred						Kid
Garnet										Bred						Kid
Yarrow										Bred						Kid
Jasmin										Bred						Kid
Pinotage										Bred						Kid
Ruby 2										Bred						Kid
Princess Saba										Bred						Kid
Chardonnay										Bred						Kid
Daffodil											Bred					Kid
Indira											Bred					Kid
Mirabai											Bred					Kid
Regina											Bred					Kid
Arial											Bred					Kid
Whinnie											Bred					Kid
Noir											Bred					Kid

Opal	Bred	Kid
Safire	Bred	Kid

Table 14. Dairy goat births 1-Jan – 31-Dec-2013

Dam Name	Dam SB	Sire Name	Sire SB	Birth Date	Sex	SBN	Alive/Stillborn/Died
Himba Goat	116	Omar	35	19/03/2013	F	117	Alive
Himba Goat	116	Omar	35	19/03/2013	F	118	Alive
Anne-Sophie	40	Apollo	38	12/05/2013	M	119	Dead
Anne-Sophie	40	Apollo	38	12/05/2013	M	120	Alive
Anne-Sophie	40	Apollo	38	12/05/2013	F	121	Alive
Josaphine	42	Apollo	38	14/05/2013	M	122	Alive
Josaphine	42	Apollo	38	14/05/2013	M	123	Alive
Tina	28	Apollo	38	15/05/2013	F	124	Alive
Rosie	64	Ou Ram	98	02/07/2013	M	125	Alive
Rosie	64	Ou Ram	98	02/07/2013	M	126	Alive
Kate Middleton	77	Ou Ram	98	02/07/2013	M	127	Alive
Kate Middleton	77	Ou Ram	98	02/07/2013	F	128	Alive
Gretel	67	Ou Ram	98	02/07/2013	M	129	Alive
Gretel	67	Ou Ram	98	02/07/2013	F	130	Alive
Margret	72	Ou Ram	98	02/07/2013	F	131	Alive
Margret	72	Ou Ram	98	02/07/2013	F	132	Alive
Edelweiss	74	Ou Ram	98	10/07/2013	M	133	Alive
Edelweiss	74	Ou Ram	98	10/07/2013	M	134	Alive
Lily	69	Ou Ram	98	11/07/2013	M	135	Alive
Dolly Parton	65	Ou Ram	98	12/07/2013	M	136	Alive
Magnolia	70	Ou Ram	98	07/09/2013	F	137	Alive
Magnolia	70	Ou Ram	98	07/09/2013	F	138	Alive
Zinfandel	52	Ou Ram	98	22/09/2013	M	139	Alive
Chenin Blanc	100	Ou Ram	98	15/10/2013	F	140	Died

A total of four dairy goats died in 2013. A wether, Otis (SB# 92), died due to pneumonia. A male kid (SB# 119) died two days after birth due to unknown reasons. A pregnant female, Camela (SB# 60), died due to a toxic bug that lives on the grass. When goats eat this tiny bug by mistake and then drink water, they begin to foam at the mouth and in most cases die. The fourth dairy goat that died was a young female kid (SB# 140) who declined in health for unknown reasons. In addition, 11 wethers were sold during this period. Eight wethers were sold in August at auction and the other three were sold in July to two different farmers.

Individual Goat Health

Between 1 January and 30 June 2013 no dairy does or kids were lost to pregnancy toxemia due to the correction in diet. Pregnancy toxemia had affected the does in 2012, resulting in the loss of a number of does and kids, including four kids aborted by Tina (SB# 28), which was our first goat to suffer from this

problem. Tina survived after intensive treatment and in May 2013 gave birth without complications and remains healthy. The dairy does, however, suffered from a mild infectious teat problem, likely caused by the orf virus. Topical treatment of betadine and F10 was applied and they all improved within two weeks of clinical treatment.

CCF's breeding male Omar (SB# 35) had a reoccurrence of scrotal lesions. On 17 April he was anaesthetised and an excisional biopsy of one of the lesions was taken. The results showed him to have a soft tissue sarcoma. The only treatment for this is surgical removal of all the lesions. On 30 May all lesions were excised from his scrotum. He has healed well and currently has no further problems.

Milk Production

There are several major factors that play a role in the amount of milk given by a specific goat. These factors include: the type of breed, age of an animal, lactation stage, amount and type of feed, temperature, milking frequency, availability and duration of free ranging, animal health condition, and the type of management practice. Each goat is milked twice a day, although the number of goats milked each month depends on their lactation stage.

During the first six months of 2013, up to 16 goats were milked for a total milk production of 4,987.3kg of milk. In the second half of the year, up to 26 goats were milked for a total of 6,360.8kg of milk.

The total milk produced during 2013 was 11,348.1kg of milk, resulting in a total of 10,732.78kg once the milk is filtered and foam removed (roughly 5.4%). A total of 1,261.5kg were used to raise goat kids, and 9,471.3kg of this milk was supplied to the Creamery (Table 15).

When converting milk amounts from kilograms to litres and vice versa, we make the assumption that 1 litre of goat's milk weighs roughly 1 kilogram

Table 15. Monthly milk production and allocation in kilograms. Jan-Dec 2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
Goats milked	16	14	13	13	16	16	22	21	23	24	22	22	
Total Produced	938.0	813.2	863.7	769.4	794.7	808.3	903.0	1156.0	1026.9	1063.5	1097.4	1114.0	11348.1
Lost to foam													615.32
Allocated to kids	111.5	0.0	0.0	0.0	82.0	154.5	309.68	291.7	0.0	124.3	54.8	133.0	1261.48
Total kitchen													9471.3

The amount of milk each individual goat produces is monitored on a daily, weekly, and monthly basis. This allows us to determine when they are producing the most milk and then compare the amounts produced to the feed they are given. Table 16 and Figure 16 show amounts of milk production per goat per month.

Table 16. Monthly milk production per goat (kilos). January-December 2013.

Goats	SBN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Opal	47	104.3	80.9	107.3	94.0	55.4	63.3	60.8	71.5	74.6	79.5	86.5	87.6
Anne-Sophie	40	0.8	0.0	0.0	0.0	32.7	58.8	36.8	34.3	19.2	10.8	0.0	0.0
Camela	60	106.0	67.5	65.3	60.3	62.8	54.3	42.3	44.3	34.5	28.7	0.0	0.0

Chardonnay	53	79.2	68.9	75.8	62.9	60.9	52.5	49.0	52.0	53.9	56.1	59.0	59.8
Daffodil	46	71.9	56.9	64.4	69.8	57.0	46.3	48.3	36.8	40.5	43.2	30.1	28.3
Diana	59	69.3	69.3	63.3	69.6	59.5	52.0	47.8	39.3	35.4	31.7	38.7	30.5
Garnet	91	15.3	26.2	29.2	23.8	28.6	23.0	20.0	57.3	21.1	19.2	23.7	26.0
Indira	49	65.3	62.2	63.8	58.8	61.8	52.8	52.0	55.8	53.8	43.5	43.3	46.3
Jasmin	44	60.5	56.4	61.8	55.6	51.3	45.7	43.0	71.8	44.7	43.5	42.9	47.3
Josephine	42	30.4	10.0	0.0	0.0	35.3	68.5	55.8	56.5	46.9	34.1	38.2	35.0
Kimberly	56	56.9	44.3	38.9	30.3	31.7	25.3	10.3	0.0	0.0	0.0	0.0	0.0
Noir	50	95.5	74.9	75.8	64.6	63.9	61.0	60.8	69.5	60.3	70.4	70.2	144.0
Safire	48	122.9	111.9	122.3	99.4	72.8	63.5	58.3	62.3	62.2	55.8	62.3	66.0
Tina	28	1.0	0.0	0.0	0.0	33.7	72.3	67.8	71.0	60.7	58.1	58.1	51.3
Yarrow	45	36.4	52.9	60.3	54.8	55.5	53.0	49.8	55.8	50.0	45.9	47.7	49.0
Zinfandel	52	22.3	30.9	35.5	25.5	31.8	16.0	0.0	0.0	14.3	75.7	68.0	64.0
Rosie	64	0.0	0.0	0.0	0.0	0.0	0.0	37.0	56.0	46.4	44.9	46.9	37.5
Margaret	72	0.0	0.0	0.0	0.0	0.0	0.0	35.5	55.3	44.7	35.6	39.5	31.3
Magnolia	70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.7	56.8	61.0	59.8
Lily	69	0.0	0.0	0.0	0.0	0.0	0.0	21.8	54.4	51.7	44.8	47.3	40.5
Kate Middleton	77	0.0	0.0	0.0	0.0	0.0	0.0	30.5	55.3	44.3	39.3	44.3	40.5
Gretel	67	0.0	0.0	0.0	0.0	0.0	0.0	32.8	58.5	52.6	53.7	58.0	53.0
Edelweiss	74	0.0	0.0	0.0	0.0	0.0	0.0	19.8	40.8	41.9	33.6	34.3	32.8
Dolly Parton	65	0.0	0.0	0.0	0.0	0.0	0.0	22.8	57.5	44.5	45.0	51.0	42.5
Chenin Blanc	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	46.4	41.0
TOTALS		938.0	813.2	863.7	769.4	794.7	808.3	903.0	1156.0	1026.9	1063.5	1097.4	1114.0

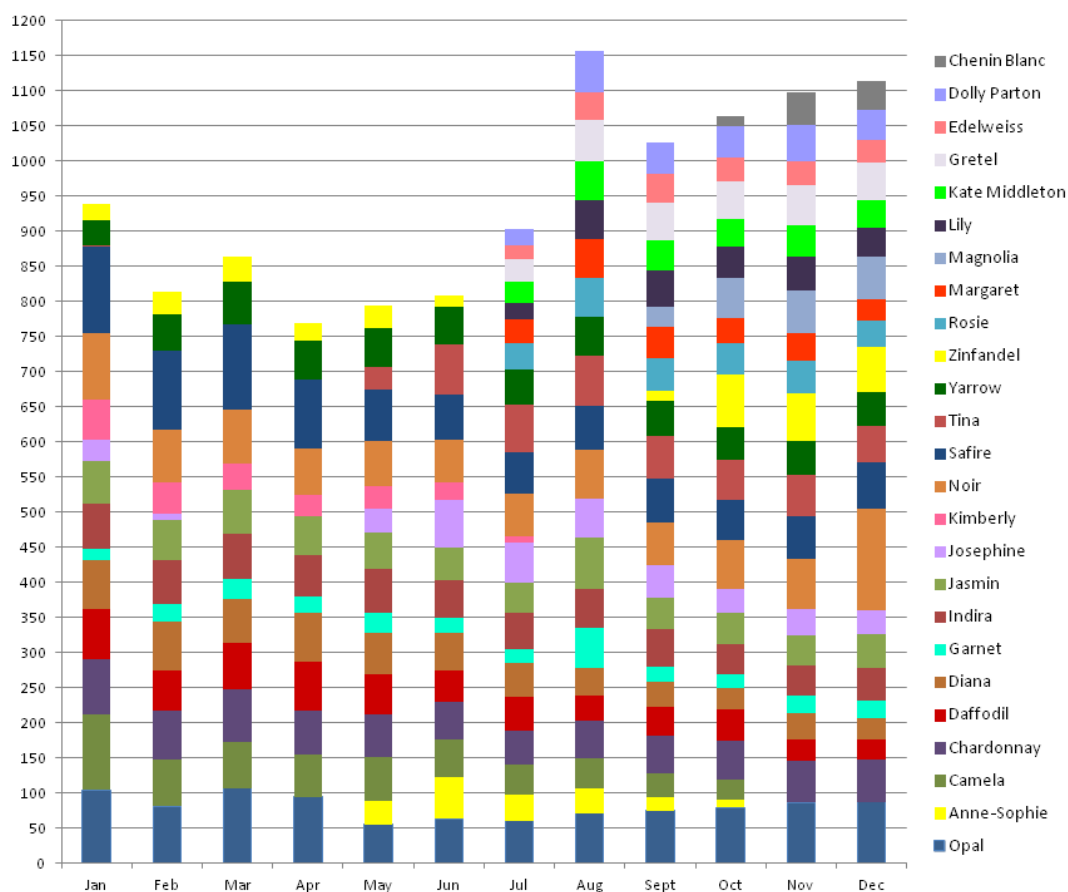


Figure 16. Monthly milk production in kilos between 1 Jan – 31 Dec-2013

- **Feed provided to CCF small stock**

To ensure the health of all our goats and sheep we constantly monitor their food requirements and intake. We currently use seven feed products to provide the correct variety of nutrients for our animals. They include: peanut "Bean" hay, Suivel 17, Ram, Lam and Ewe pellets, milk goat pellets, Lucerne, grass Hay, and molasses. The milk goat pellets were only added in to the feed regiment during the last six months of 2013. This new food was added in because originally the Ram, Lam, and Ewe pellets were being used to feed the lactating dairy goats, which wasn't the best choice for them so we changed to a food that was better for them.

From 1 January to 31 December 2013, we used 9,140kg of Peanut "Bean" Hay, 7,735.6kg of Suivel 17, 2541.5kg of Ram, Lam, and Ewe Pellets, 1,288kg of Milk Goat Pellets, 2,926kg of Lucerne, 26,304kg (1,644 bales) of Grass Hay, and 152L of molasses (Table 17). The amount of Peanut "Bean" Hay increased from 20kg to 30kg due to more dairy goats beginning to lactate. The amount of Ram, Lam, and Ewe Pellets decreased from the beginning of 2013 because during the drought the dairy wethers had to stay in the kraal due to there not being enough foliage for them to eat and stay healthy. The amount of Grass Hay being used increased also due to animals having to stay in due to the drought. The increase in the use of Lucerne from the first 6 months of 2013 to the last 6 months of 2013 also occurred due to animals having to stay in because enough foliage was not available for them out in the bush. Molasses was no longer needed to increase the quality of hay beginning in November, as we had obtained hay of better quality and pliability.

All lactating dairy goats receive Peanut Hay, Suivel 17, and Milk Goat Pellets. The lactating dairy goats also go out each day to graze behind the kraal. The dairy and Boer bucks, as well as the Damara ram, receive the Ram, Lam, and Ewe pellets. Even though the Boer goats and Damara sheep receive most of their nutrients from going out each day into the bush, when pregnant does or ewes give birth they receive other feed products while they stay in and care for their young. All animals that do not go out to graze and the lactating dairy goats receive Grass Hay two times a day.

In January 2012 the kraal staff began growing their own Lucerne (alfalfa) garden. This project began on a small scale and increased with time to a bigger scale in January 2013. Eventually, due to the high level of protein contained in Lucerne and the amount being produced, it was used to support our female dairy kids during the drought when there was not enough foliage for them to graze on when they went out with the herd.

Table 17. Feed breakdown amounts 1 Jan-31 Dec-2013

		Suivel 17 (Dairy Meal - Kg)	Ram, Lam and Ewe pellets (Kg)	Peanut "Bean" Hay (Kg)	Grass Hay (1 bale = ~16kg)	Lucerne (Kg)	Milk Goat Pellets (Kg)	Molasses (Litres)
Jan-June 2013	Per Day	22.0	11.5	20	64	3-6	0	0.5
	Per Week	154.0	80.5	140	448	21-54	0	3.5
	Per Month (4week)	616.0	322.0	560	1792	84-216	0	14.0
July-Dec- 2013	Per Day	20.4	2.5	30	80	10	7	0.5
	Per Week	142.8	17.5	210	560	70	49	3.5
	Per Month (4week)	571.2	70.0	840	2,240	280	196	14.0

Total Jan-Dec-2013	7735.6	2541.5	9140	26304	2926	1288	152.0
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- **Vaccinations and De-worming**

Glanvac 3 – for the control of caseous lymphadenitis (*Corynebacterium pseudotuberculosis*) and prevention of enterotoxemia and pulpy kidney disease (*Clostridium perfringens* Type D) and tetanus (*Clostridium tetani*):

- Adult female animals are vaccinated one month before giving birth (parturition),
- Adult male animals are vaccinated once annually in December.
- Newborns are vaccinated at 3 and 4 months of age and then annually thereafter.

Pasteurella – for the control of *Pasteurella haemolytica* respiratory infection (“shipping fever”):

- All adult animals are vaccinated annually,
- Newborns are vaccinated at 3 and 4 months of age and then annually thereafter.

Brucellosis – for the control of *Brucella ovis* and *Brucella melitensis*, a bacterial infection of the reproductive tract:

- This vaccine is given only once and provides life-long immunity. All young animals are vaccinated at 5 to 6 months of age.

Orf – for the control of the poxvirus causing contagious ecthyma:

- All newborns are vaccinated within the first month of life.

Enzootic Abortion – for the control of *Chlamydophila psittici*, an organism that causes early and late term abortions:

- All female animals are vaccinated one month before breeding on an annual basis.

Rabies – for the prevention of Rabies virus which causes fatal encephalitis:

- All adult animals are vaccinated in October of each year
- All newborns are vaccinated at 8 to 9 months of age and then annually thereafter.

All of CCF’s small stock is treated for internal and external parasites on a quarterly basis in January, April, July and October of each year. The product used for internal parasite treatment rotates between the following four products: Fenbendazole, Ivermectin, Albendazole, and Doramectin. The product used at each treatment is determined by which product was used previously; anthelmvheiclintic products are rotated between drug classes in order to help prevent development of resistance among the parasites, which can happen when the same product is used repeatedly. Both before and after each quarterly parasite treatment, a herd-wide Faecal Egg Count (FEC) is performed to determine the internal parasite burden in the animals. This is done by collecting representative faecal samples from various areas in the kraal. The pre- and post-treatment testing helps ensure that the treatments reduce the parasite burden in the animals, which helps to ensure efficacy of the products used. For external parasite (tick, fly, and lice) prevention, Paracide (Pfizer Animal Health) and Ultra-Boss Pour-On (Schering-Plough Animal Health) are rotated at each quarterly treatment.

3. Hay Production

A total of 1,624 bales of hay were produced until the end of June 2013. Due to the drought, no hay was produced during the second half of the year and had to be purchased to fulfil the needs of CCF.

4. Wild Game Hunted on CCF Property

As part of CCF Model Farm’s sustainable wildlife management practices, CCF hunts several wild game species for consumptive purposes, including oryx, kudu, red hartebeest, and warthog. Table 18 below displays the number of wild game species removed for consumptive use over a six-year period.

Table 18. Numbers of game utilised in 2013 compared with totals from previous years.

	2007	2008	2009	2010	2011	2012	2013
Oryx	33	45	45	82	80	28	67
Male	28	43	39	76	66	22	47
Female	5	2	6	6	15	6	20
Kudu	0	4	5	41	7	6	8
Male	0	4	5	14	1	3	3
Female	0	0	0	27	6	3	5
Hartebeest	0	5	12	35	22	0	1
Male	0	5	10	31	13	0	1
Female	0	0	2	4	9	0	0
Warthog	1	8	2	22	23	24	122
Male	1	8	2	22	12	18	92
Female	0	0	0	0	11	6	30
Zebra	0	0	0	0	0	1	1
Male	0	0	0	0	0	1	1
Female	0	0	0	0	0	0	0
Total	34	62	64	180	132	59	199

C. Sustainable Economic Programmes Supporting Local Communities

If the world’s fastest cat is to survive in the wild humans must coexist 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. Certified Wildlife Friendly

CCF is a cofounder of The Wildlife Friendly Enterprise Network (WFEN) which is a “global community dedicated to the development and marketing of products that conserve threatened wildlife while contributing to the economic vitality of rural communities.” The WFEN provides the “Certified Wildlife Friendly” trademark that distinguishes those enterprises that meet the highest standards of being wildlife friendly. CCF’s Bushblok and Dancing Goat Creamery are both Certified Wildlife Friendly (Figure 17), meaning that both these ventures meet the standards of WFEN.



Figure 17. Certified Wildlife Friendly logo

2. Bushblok

Operations

Facilities Engineer Degan Hembroff resigned effective end April to sail the Pacific with his family. Farms Manager Johan Britz assumed supervision of the factory until October when Eric Kyfiuk assumed the position. Coincidentally, both Degan and Eric are Canadian-trained Mechanical Engineers.

In January the factory resumed production with the advanced extrusion parts which were purchased from a new supplier late in 2012. Preliminary results were positive with reduced production costs due to longer lifetime and ease of rebuild. However, later in the year some problems were noted and we continued to compare suppliers. A second extrusion press was refitted with new parts from the original supplier (who reduced prices) and are performing well.

Woodchip delivery to the factory was much improved with the harvest and chipping crews now direct employees of CCF Bush and the entire operation supervised by CCF's Farms Manager Johan Britz under the direction of the General Manager, Dr. Bruce Brewer. A total of 588 tonnes of woodchips were delivered to the factory in 2013. Some problems with the (aging) chippers hampered production. Plans for the acquisition of a new chipper are in progress.

Since implementation of the Bushblok project in 2003, over 1,000 hectares of land have been harvested on CCF property. Harvest occurs 11 months of the year. Each month, an average 6-12 hectares are harvested for a total chip production of between 50 and 100 tonnes per month.

Time Period	Location	Harvested Hectares
2003-2013	Farm Elandsvreugde	360
2003-2013	D-2440 (Main road)	227
2005-2013	Farm Cheetah View	163
2007-2013	Farm Boskop	70
2009-2013	Farm Janhelpman/Bellebenno	217
TOTAL		1037

Total Bushblok production during this period totalled 437 tonnes (Table 19), while total sales during this period amounted to 348 tonnes, which represents a 64% increase compared to 212 tonnes during the

same period in 2012. Sales remain constrained by transport costs. In late 2013 we acquired a new export client in Scotland, but shipping delays delayed transport until 2014.

Table 19. Monthly block production (tonnes). Jan-Dec-2013

Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
40.79	43.7	42.26	34.54	35.55	34.21	28.68	47.28	34.09	33.99	35.11	26.35	436.55

General Information

During this period, we supplied woodchip to a new biomass venture in Okahandja, WoodCO, which aims to replicate the Bushblok production. Replication is flattering, but this will be an eventual competitor. Additionally, CCF will assist the Greater Waterberg Landscape (GWL) in organising the de-bushing enterprise. This will include training and assistance in small business enterprise development, training in appropriate de-bushing techniques, and arts and crafts production training sessions utilising a portion of the harvested bush.

In February, CCF welcomed a group of 55 people attending a workshop hosted by the Ministry of Mines and Energy. During the workshop, CCF had an opportunity to introduce the group to its programmes, including Bushblok and plans to explore biomass power generation possibilities. CCF Bush staff attended first aid courses hosted by the nearby Solvay Okorusu Fluorspar mine.

In May a representative of the Embassy of Finland visited the operations and discussed a grant submission with Dr. Brewer. A grant of 104,600 EUR was signed in June. The grant support from the Finland's Fund for Local Cooperation (FLC) will assist CCF to improve the livelihoods of inhabitants of the neighbouring GWL by creating a de-bushing enterprise. This involves assisting the inhabitants in business development and organisation, and providing a sustainable source of income through purchase of the harvested bush. Our inputs will include training and assistance in small business enterprise development, training in appropriate de-bushing techniques, and arts and crafts production training sessions utilising a portion of the harvested bush. Forest Steward/Senior Ecologist Nghikembua and the General Manager have begun site visits to engage appropriate harvesters.

Also in May, Dr. Brewer attended the LIGNA 2013 trade fair for the forestry and wood industries in Hannover to view potential equipment. Dr. Brewer also attended a presentation, "Namibia's Energy Future - a Case for Renewables" by a consultant colleague. The local adoption of biomass power remains something we are promoting over government foot-dragging. In June Dr. Brewer attended the European Biomass meeting in Copenhagen and Elmia Wood (the world's largest forestry fair) in Sweden.

CCF Bush received shipment of a Swedish forest harvest machine (VIMEK 404T) funded in part by Tillvaxtverket and SIDA (Sweden). In November we hosted a forest logistics expert, the Senior Scientist of the Finnish Technical Institute (VTT) who monitored the machine's efficiency. Finally, the Forest Stewardship Council (FSC)™ renewed CCF's certification after an inspection in April. FSC issued approval with no errors.

3. Cheetah Country Initiatives

As part of CCF's economic development opportunities, CCF participated in a committee working with the support of the municipality of Otjiwarongo to organise a monthly farmers' market. The Otji Farmers' Market, officially inaugurated on Friday 6 September under the sponsorship of Agribank of Namibia,

provides local farmers and businesses the opportunity to sell locally grown and locally made food, beverages, and handcrafts. The CCF booth offers products from its Dancing Goat Creamery as well as women's handcrafts in an effort to further promote alternative livelihoods with the community.

(1) *Dancing Goat Creamery*

Background

CCF began producing fresh goat cheese in August 2009 using the milk from six CCF dairy goats, which came from the award-winning dairy farm Fairview in South Africa. At the end of December 2013, there are 43 female dairy goats at CCF with up to 26 being milked daily for a daily average of 30 kilograms per day. Milk yield from the goats has steadily increased since the inception of the dairy goat programme, growing from 16 goats being milked in January. CCF uses milk from CCF's Saanen and French Alpine dairy goats.

The programme aims to facilitate training and skill development around the production of dairy goat products thus enabling livelihood diversification and supplemental income to community members.

In early April 2013, CCF opened the Dancing Goat Creamery where high-quality artisanal fresh goat cheeses, as well as a variety of goat milk ice creams, fudge, and soaps are produced. With the opening of the new Creamery, CCF also launched a new label for their cheeses.

CCF's Creamery Manager Hanlie Visser and head cheese maker Sherien Garoes make several types of cheeses daily. Sherien, having worked at CCF for over 10 years, has been making CCF's cheeses for three years. Hanlie has a degree in Hospitality and Catering from Boland College in Stellenbosch. CCF's Small Stock Manager Tyapa Toivo and Goat Herdsman Armas Shaanika manage CCF's goat and sheep herds along with CCF's Livestock Guarding Dogs, which protect the flocks.

The Dancing Goat Creamery is part of CCF's mission to conserve wild cheetah populations in Namibia. By creating a Model Farm alongside its celebrated Livestock Guarding Dog Programme, CCF is able to demonstrate how cheetahs and livestock can live together and how local farmers can be successful using non-lethal predator management strategies to protect their livestock and thus their livelihoods. The CCF model farm, Dancing Goat Creamery, and the Cheetah Conservation Fund Research and Education Centre are open to the public daily and local farmers are encouraged to visit.

Production

During this period (January-December 2013), Chèvre and Feta recipes were improved to ensure consistent, high quality products. Feta packaging sizes were changed to adjust the weight of the brine content in the containers. Feta is now available in containers of 450g and 150g. Goat-milk ice cream of various flavours is now offered at CCF's Cheetah Café. Additionally, Ricotta and Chevarti cheese recipes have been developed, and production of goat milk soap began with batches made several times per week.

CCF's Dancing Goat Creamery was supplied with 9471.3kg of milk from the CCF's Model Farm during 2013. Table 20 shows amounts of milk allocated to each of the Creamery products.

Table 20. Milk allocation per product during Jan-Dec-2013.

Milk used (kg)	Product
7889.75	Feta/Chèvre
514.7	Ricotta/Chevarti
924.44	Fudge
73.87	Ice cream
68.57	Soap
9471.3	Total

Eighty-three percent of the milk was used to produce 868.92kg of the Creamery's original cheeses, Feta and Chèvre. Table 21 shows the amounts of these varieties produced each month. In addition, the Creamery produced a total of 56.66kg of Ricotta and Chevarti cheeses, which are still in the development stages, as well as 128.57kg of fudge, 81.18kg of ice cream, and 80.67kg of soap.

Table 21. Chèvre and Feta cheese monthly production in kilograms. Jan-Dec-2013

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Feta	32.36	31.36	29.86	29.86	31.96	23.22	32.47	40.15	58.79	50.94	91.56	28.24	480.77
Chèvre	36.46	29.26	35.56	35.56	32.26	24.76	13.98	29.21	35.13	20.93	49.76	45.28	388.15
Totals	68.82	60.62	65.42	65.42	64.22	47.98	77.86	100.76	125.32	103.28	172.76	104.92	868.92

Expenses

Creamery expenses such as cheese cultures, packaging, labelling, herbs, labour, gas, and electricity are estimated at N\$9,730.76 for this year. Milk costs to produce 105,274kg of product amounted to N\$42,671.17 at an average N\$50.25 per kilogram. The average amount of milk to produce a kilogram of cheese is 9.08 litres, whereas fudge requires 7.19 lt/kg and ice cream and soap require less than 1 litre per kg. Table 22 shows the breakdown of costs for the various Creamery products.

Table 22. Production cost of Creamery products. Jan-Dec-2013

Product	Production (kg)	Milk per kg (lt)	Total milk used (lt)	Milk cost/kg (N\$5.46/lt)	Other costs (N\$1.027/lt)	Total production cost (N\$)	Total Cost/kg (N\$)
Cheese – Feta	480.77	9.08	4365.39	\$23,835.04	\$4,483.26	\$28,318.30	\$58.90
Cheese – Chèvre	388.15	9.08	3524.40	\$19,243.23	\$3,619.56	\$22,862.80	\$58.90
Cheese – Ricotta	26.90	9.08	244.25	\$1,333.62	\$250.85	\$1,584.46	\$58.90
Cheese - Chevarti	29.76	9.08	270.22	\$1,475.41	\$277.52	\$1,752.92	\$58.90
Fudge (100 g bags)	128.57	7.19	924.42	\$5,047.32	\$949.38	\$5,996.70	\$46.64
Ice cream (110 g tubs)	81.18	0.91	73.87	\$403.35	\$75.87	\$479.22	\$5.90
New product: Soap (80g)	80.67	0.85	68.57	\$374.39	\$70.42	\$444.81	\$5.51
Total	1216.00		9471.13	\$51,712.36	\$ 9,726.85	\$65,719.00	

Sales

Total revenue from Creamery products during 2013 was N\$102,938.95, compared to N\$26,516.74 during 2012, and resulted in a total profit of N\$45,671.20 compared to N\$8,578.75 for the entire year in 2012.

Creamery product combined sales totalled 694.39kg, while 95.62kg of product were distributed as promotional samples and gifts at events such as agricultural shows, farmers' markets, and tourism fairs (Table 23).

Table 23. Total cost, revenues and profit from Creamery sales. 1 Jan-30 Dec-2013

Product sales	Kg	Cost/kg	Total Cost	Revenue	Profit
Feta	280.25	58.90	16506.72	33630	17123.28
Chèvre	142.53	58.90	8395.02	17103.6	8708.58
Ricotta	28.75	58.90	1693.38	3450	1756.62
Chevarti	10.63	58.90	626.11	1275.6	649.49
Fudge	35.45	46.64	1653.39	5317.5	3664.11
Sales to Stores and Lodges	497.61		N\$28874.62	N\$60776.7	N\$31902.88
Cheese (Gift Shop)	81.12	58.90	4777.97	9734.4	4956.50
Fudge (Gift Shop)	83.21	46.64	3880.91	12481.5	8600.59
Ice cream (Gift Shop)	32.45	5.51	178.48	5900	5721.52
Sales to CCF Gift Shop	196.78		N\$8837.36	N\$28115.9	N\$19278.54
Ice cream (CCF facilities)	26.75	5.51	147.13	147.13	\$0.00
Cheese (CCF facilities)	235.98	58.90	13899.22	13899.22	\$0.00
Utilised by CCF Kitchens	262.73		14046.35	14046.35	\$0.00
Total Sold	694.39		\$51758.33	\$102938.95	\$51180.62
Cheese samples	85.62	58.90	5043.02	\$0.00	-5043.02
Fudge samples	10.00	46.64	466.40	\$0.00	-466.40
Promotional samples	95.62		\$5509.42	\$0.00	-\$5509.42
Total All Products	1052.74		\$57267.75	\$102938.95	\$45671.20

Sold			
Inventory (cheese)	82.59	58.90	4864.55

Sales to stores and lodges totalled 497.61kg (462.16kg cheese and 35.45kg fudge), which exceeded total sales for the entire year in 2012 (213.15kg). Cheese deliveries were made to approximately 25 different customers, nine of which order on a regular basis. CCF's main customers include Maerua Super Spar, Desert Hill, Omaruru and Theo Spar, and the Franz Indongo Lodge.

A benefit of CCF's Creamery is the creation of a secondary industry for CCF by increasing revenues for its tourism business by offering its products for sale to visitors at the Cheetah Gift Shop at retail price. During this period, the Creamery supplied the Gift Shop with 196.78 kg of product (cheese, fudge and ice cream), at cost.

The Creamery also supplies the CCF kitchens at Babson House, Cheetah Café, and the Hot Spot. Thus, utilization of CCF's own products reduces food costs for staff, volunteer and guests, as well as Babson House and Cheetah Café customers. During this period, the CCF kitchens were supplied with 262.73 kg of ice cream and cheese.

At the end of this period, the only remaining inventory in CCF's freezers was 82.59 kilograms of cheese, as every product made at the Creamery is being sold.

Client Development

Cheese sales in 2013 more than tripled 2012 sales. All the cheese recipes have been perfected to ensure consistently high quality and to ensure client satisfaction. Based on customers' suggestions, the Creamery team worked on the development of a variety of flavours for its existing cheeses, the new Chevarti and Ricotta cheeses, and it has recently begun making two more types of cheeses: Brie and Camembert.

CCF will continue to place special emphasis on customer satisfaction and quality assurance in an effort to continue the trend of growing sales. In addition, CCF will intensify its marketing and sales of its new cheese types and its soaps while continuing to develop new products.

Importantly, the CCF Dancing Goat Creamery is striving to increase milk production to meet the increasing demand for its products.

The Otjiwarongo Famers Market creates an outlet for fresh and local food and a place where the community can connect. The first famers market was held on the 2 August 2013. The Cheetah Conservation Fund sells our home made artisan goat milk cheese, goat milk fudge, soap, fresh breads, pastries filled with different goat milk cheese fillings, muffins, Bushblok, and crafts from our local farm workers makes at the market. The Farmers Market was started by Jörg Diekmann along with a committee of which Heike (Staff member of CCF) is apart off. The Famers market is held every first Friday of the month on the lawn in the centre of town. The market is open for anyone how wishes to sell their products there or would like to attend the market. The Market is still in the development stages. We hope with time the market will grow and more people will attend the market. Maybe with some changes like moving the day and the location the Otjiwarongo famers market can be a great success.

(2) The Chewbaaka Memorial Garden

In early February, with the help of staff and volunteers, CCF began building a diverse organic vegetable garden at CCF's International Research and Education Centre under the direction of long-term volunteer Jenna Brager. CCF now produces fresh vegetables for consumption by more than 40 CCF staff and volunteers, as well as visitors to the Cheetah Café and Babson House guests. Namibia is importing 80% of its fruits and vegetables, mostly from South Africa, transporting it across long distances and increasing use of fossil fuels and carbon emissions that contribute to climate change. By localising food production CCF is not only reducing the environmental and social impacts of transporting food, but is also providing fresher, tastier, more nutritious meals, and saving money.

To counteract the heavy clay-sand soil, CCF used aged manure from its farm and a by-product from its Bushblok production: wood dust. These materials are mixed into parent soil to improve fertility and organic matter content. CCF is also creating compost from food scraps, which is an essential ingredient for any organic garden. CCF Staff, volunteers, and CCF gardener, Petrus Johannes, have been trained. CCF is consistently harvesting a variety of salads and vegetables including beans, beetroot, carrots, daikon radishes, peas, squash, lettuces, turnips, parsnips, rutabagas, cilantro, chard, endive, mustard, rocket, spinach, radishes, and okra.

Since its inception, the garden's harvest has continued to grow. By having diverse plantings in a small space, the garden remains chemical-free because it invites beneficial insects to do the work of managing unwanted insects. Sunflowers and other flowers attract pollinators. The vegetables are therefore healthier for the environment, the growers, and the consumers. Seeds were provided courtesy of Baker Creek Heirloom Seeds, an American company based in Missouri and distributing from California. We now have 60 varieties of heirloom vegetable seeds.

The Garden was named "Chewbaaka Memorial Garden" and was dedicated on 3 April, which marked the second year of Chewbaaka's passing. The garden is one more step in CCF's sustainability programme, which includes an extensive recycling programme and composting. CCF intends to include the Chewbaaka Memorial Garden and Sustainable Practices in farmer training programmes as yet another way to promote alternative livelihoods and economic growth in Namibia.

(3) The Apiary

During this period, and through a programme to help farmers set up beehives by the Namibian Directorate of Forestry (DoF), CCF begun an apiary with a beehive in a tyre retrieved from a nearby farmer's garage. The bees are now settling in peacefully, and another swarm has been established in an artificial hive.

In addition to delivering the beehive in late June, the DoF trained staff in beekeeping. Protective suits with veils, gloves and boots, bee brushes, hive materials and tools, and a smoker were purchased with support of volunteers and dedicated CCF donors' funds plus donations by the DoF. The equipment will be enough to set up three large colonies of bees. CCF apiary team leader and long-term volunteer, Jenna Brager, also shared her personal expertise with DoF.

The CCF apiary team took a field trip to the neighbouring town of Otavi to meet a family of experienced beekeepers. The team did several hive inspections to learn more about what to look for in a healthy beehive.

Having bees at CCF is beneficial for many different reasons. Honey harvesting and sales will add to CCF's diverse income and food sustainability. In addition, bees will pollinate the crops at CCF's organic garden and increase food production. CCF intends to build up the apiary to teach more aspects of sustainability to visitors and local farmers, and to produce honey for food and added income. Along with CCF's Model Farm, the apiary will help to demonstrate predator-friendly farming techniques, as honeybees are part of an integrated farming system that diversifies income and adds value to the landscape.

In July 2013, the beekeeping team captured a new swarm and successfully established it in one of our hive boxes. The colony grew quickly and is still doing well. When the rains started in December, more pests started emerging but the colony has handled them well.

(4) *The Vineyard*

During 2013 CCF's Vineyard made its second harvest of French Colombard grapes, which were sent to Michael Weder's winery, Kristal Kellerei Winery, in Omaruru for processing. The vineyard harvested a 70kg of grapes which yielded 35 litres of wine.

On 15 October, CCF was the setting for the establishment of the Namibian Wine Growers Association (NAWGA). The informal association, founded by four outstanding winemaking experts, aims to develop and motivate others by supporting the industry of grape growers and wine makers.

The NAWGA's founders are: Mr. Michael Weder, owner of Kristal Kellerei Winery in Omaruru and Chairman of the association; Dr Bertus Boshoff, owner of Thonningii Winery and Vice Chair of the association; Mr. Heiko Pfafferott, expert oenologist from Otjiwarongo charged with Research; and Dr. Laurie Marker, Founder and Executive Director of the Cheetah Conservation Fund, and Secretariat of the association.

D. 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.

On 30 May, Dr. Bruce Brewer attended a Volunteer Tourism meeting in Windhoek. This group is working to develop guidelines for streamline structures so that volunteers are welcomed into Namibia. This group works with the Ministry of Environment Tourism.

In November, Dr. Laurie Marker attended the Annual General Meeting of the Hospitality Association of Namibia (HAN) and spent the afternoon at the networking session meeting with tour booking agents from Namibia.

1. Visitors to CCF

In 2013, CCF hosted 6,669 tourists and 1,678 students/learners for a total of 8,356 visitors, which represents a 21.4% increase from 5,493 visitors in 2012.

In addition to school groups and film crews mentioned separately, CCF hosted many friends, supporters, and collaborators as well as visitors during 2013; many of them on their return visits.

In January, Christine Osekoski from Fast Company in New York (USA) and CCF supporter who has assisted us with corporate outreach spent a week at CCF, followed by Elizabeth Marquart, a returning volunteer and CCF USA Chapter member. CCF USA Board of Directors member, Polly Hix, visited CCF with her husband, Mr. Tony Fair, in February and in November; they helped out with some of the day-to-day operations, while Tony also helped clear the Visitor Centre ruins to prepare for the new construction. Also in March, Dr. Netty Purchase, Regional Coordinator of Conservation Planning for Cheetah and African Wild Dog for Southern Africa visited CCF briefly and gave a presentation to the CCF staff, volunteers, and interns on the status of these species, including wildlife laws and their conservation strategies in the region. CCF also hosted the Peace Corps' Country Director for Namibia, Gilbert Collins, who visited with his family.

In April, a CCF supporter from California, Tim Mather, visited CCF for five days. May was an active month at CCF with visits by Dennis Kelly, Director of the National Zoo (USA); Birgit Braun, head of CCF's fundraising partner in Germany, AGA; Dr. Larkin Powell from University of Nebraska (USA); and the US Ambassador to Namibia, Wanda Nesbitt, with her family.

The Cincinnati Zoo returned to CCF this year in June with 11 guests accompanied by two Cincinnati Zoo group leaders and two Ultimate Safaris guides. The group engaged in cheetah related activities and learned about CCF. Dr. Scott Turner from State University of New York (USA) visited CCF with colleagues from Ben Gurion University (Israel) to carry out research into insect burrow gas exchange. CCF friend and member of the Leadership for Conservation in Africa (LCA), Patrick Couzinet, who in 2010 transported two Kangal dogs from France to Namibia, returned to CCF for a short visit. CCF was also happy to welcome long-time supporters and friends Mr. John Wilson and Mr. George Ohrstrom. John visited CCF in June with his family. George visited CCF for the first time. He was accompanied by his niece Morgan.

Long-time volunteer from Australia, Adrian Nisbett, visited CCF in July. Other visitors in July included Brigitte Petraz, member of CCF's French partner AMIFELINS, with her husband; Willem Ferwerda, from Erasmus University (Holland) and his family visited CCF for the day; CCF major donor and Ambassador Sally Davidson and her niece visited for the first time, staying in the Babson house. We also hosted Alan Stephenson from the United Arab Emirates, the Oshikoto Gold Mine Group, and the Loomis Family whose sons, Sam and Will, stayed on for a month as volunteers. Mark Stanback from Davidson College in North Carolina, who is conducting a study about interspecific nest-site competition in Namibian cavity nesters, spent some time at CCF installing nest boxes for his study. The Solvay Okorusu Fluorspar Mine Community Trust visited CCF and donated substrate for the constructions of the new Visitor's Centre and materials for the Bushblok factory.

In August, CCF had the honour of hosting former US Secretary of Agriculture, Anne Veneman, as well as long-time donor Carol Austin. Subsequently, CCF welcomed the directors of B2Gold, CCF supporter and artist Paola Bari and her husband Jeff, and CCF USA Trustee and Chairman of Infinite Safari Adventures Alan Feldstein, with his wife Diane, in November.

Finally, as a result of a lecture by Dr. Marker to the European Group of Animal Welfare in 2012, CCF had the privilege of hosting a group of European parliamentarians.

2. Visitors Analysis

Namibia has become more affordable as the Namibian dollar 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.

In 2013, CCF hosted a total of 8,356 people including 6,669 visitors and 1,687 students and learners. This number represents a 21.4 % increase compared to the 5,493 visitors during the same period last year (Figure 18). The highest months for visitors were August, followed by October and July, while October, December, and July were the busiest months for schools visits. The predominant language of visitors in 2013 was English (46%), followed by German (32%) and French (13%) (Figure 19). In terms of nationalities, the majority of visitors were from Germany, followed by Namibia, and France (Figure 20).

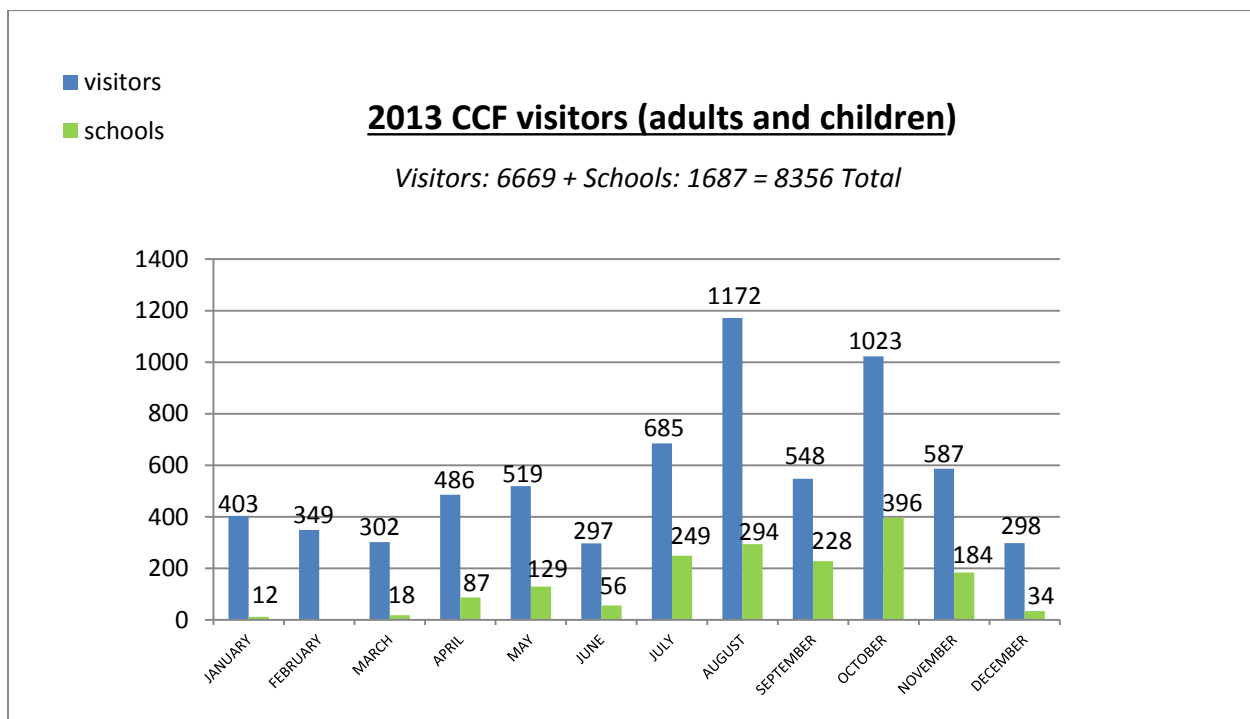


Figure 18. Number of visitors to CCF per month, January-December 2013.

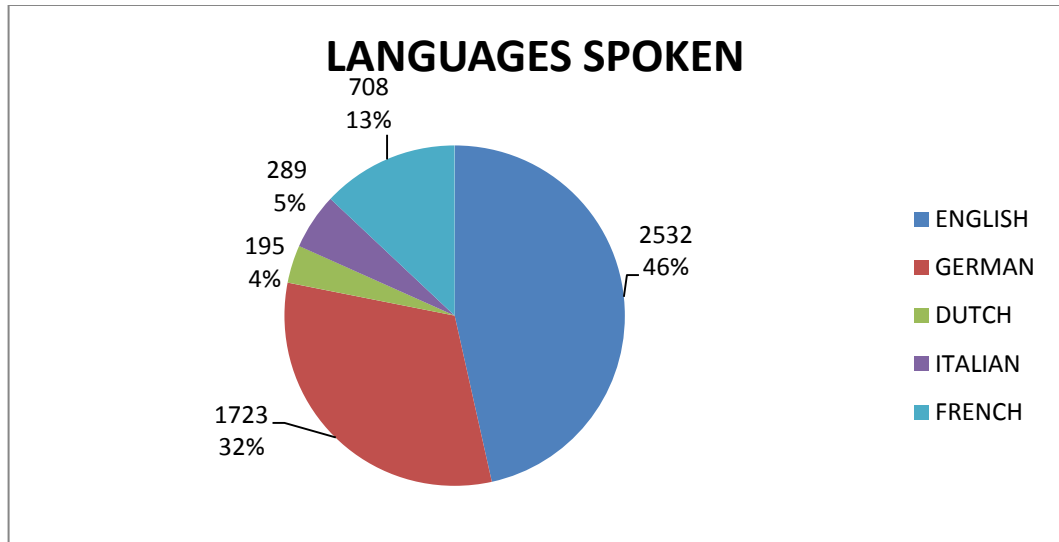


Figure 19. Languages spoken by visitors in 2013.

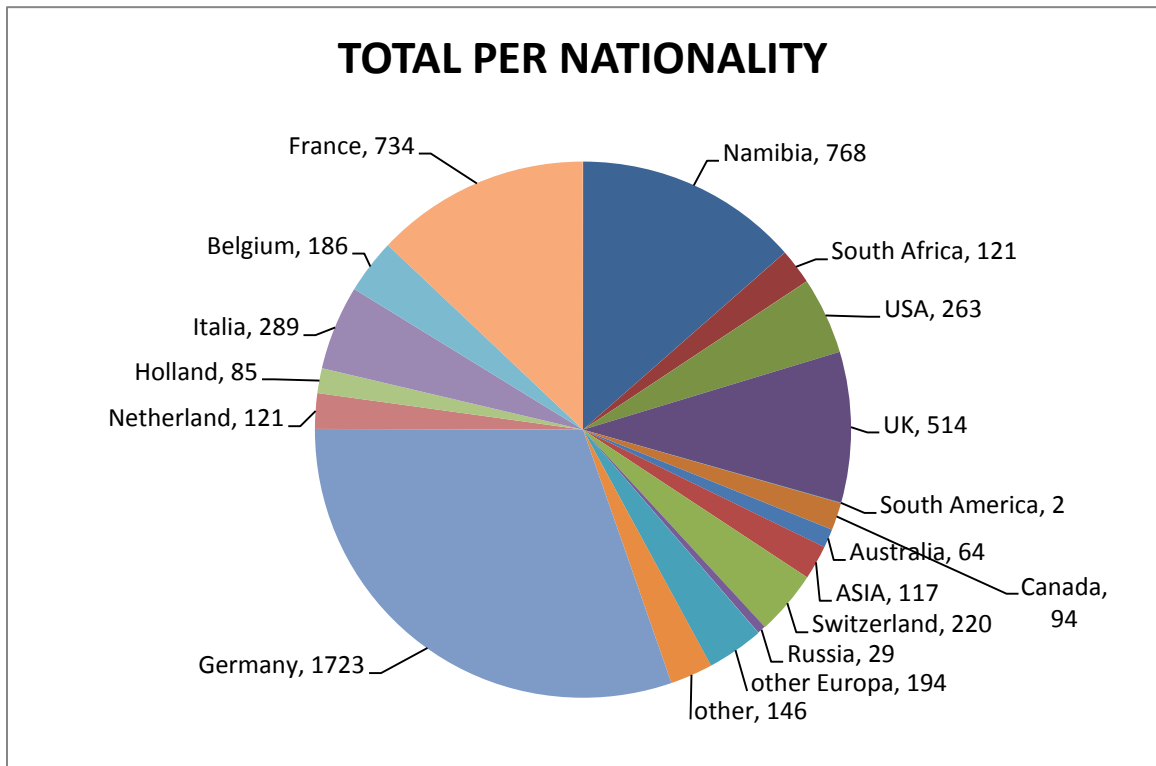


Figure 20. The number of visitors per country in 2013

The number of school groups during this period stood at 1,687 participants including students and teachers. Of these, 927 represent day programmes while 760 represent overnight programmes at Camp Lightfoot (Figure 21). These numbers represent a sharp rise from the 649 participants in 2012, which included 319 participants in day programmes and 330 in overnight programmes.

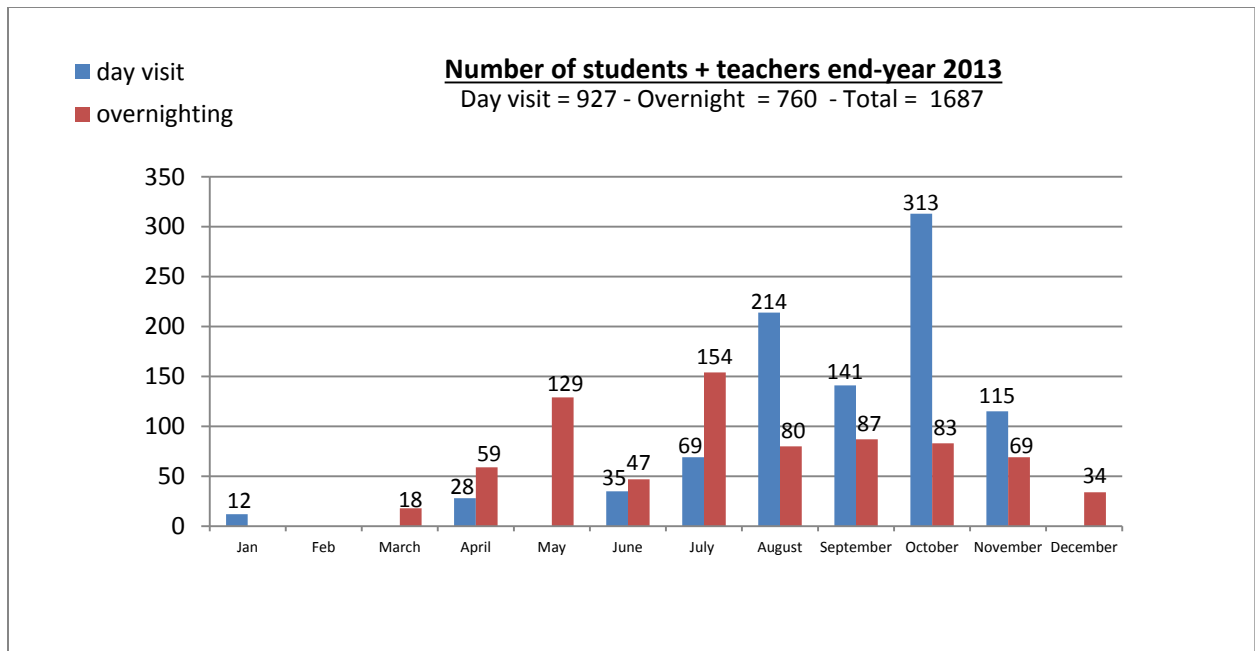


Figure 21. Number of school visits January-December 2013.

The majority of visitors continue to be walk-ins (3702), followed by visitors booked by CCF’s reservation agency, Exclusive Reservations (1885) - (Figure 22).

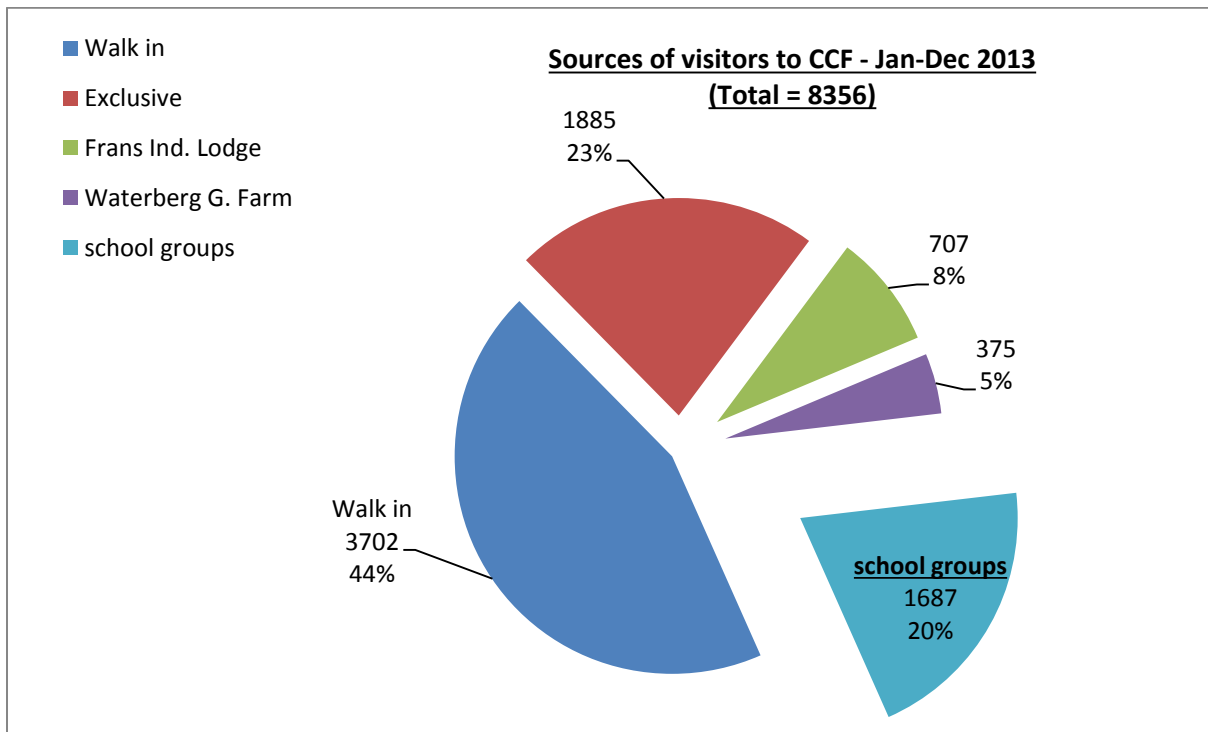


Figure 22. Sources of visitors to CCF, January-December 2013.

Overall, there has been a 19.14 % increase in the amount of tourism income during January-December 2013, at N\$ 2,474,800 compared with N\$ 2,077,179 during the same period in 2012 (Figure 23).

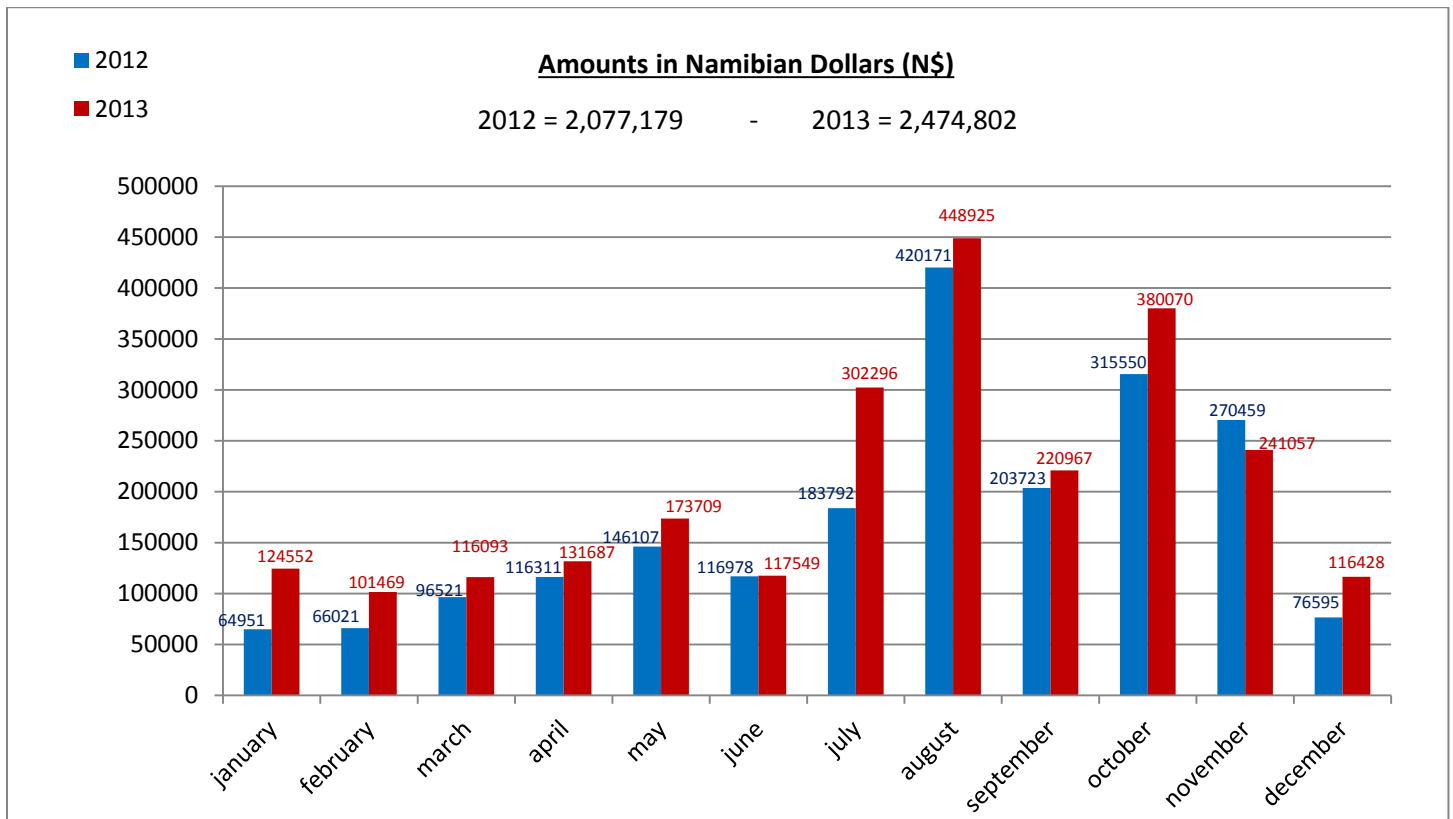


Figure 23. Tourism income comparison (Namibian \$), January-December 2012 & 2013.

Table 24 provides the monthly breakdown of income per activity and number of visitors, showing that the month with the highest average of expenditure per visitor was July at N\$441.31, and the lowest month was April with N\$270.96 per visitor. Cheetah Drive and Gift Shop sales represented the highest income sources during this period, at 53.47 % of the total income of N\$2,474,800 (Figure 24).

Table 24: Monthly eco-tourism income per activity. 1 January-31 December 2013

ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	%
ELANDS	49,702	35,405	38,689	29,817	59,812	39,040	110,359	154,107	68,620	112,620	79,515	42,941	820,627	33.16%
GIFT SHOP	20,276	18,054	30,587	42,684	32,968	32,382	54,535	92,568	46,071	59,413	43,411	29,637	502,586	20.31%
ED CENTER	32,231	28,711	22,349	27,131	33,680	21,793	43,691	71,714	37,863	78,530	54,882	26,013	478,588	19.34%
RUN	4,300	6,136	10,578	14,875	19,023	10,466	22,856	41,675	18,885	30,866	22,508	6,416	208,583	8.43%
ACCOM	7,480	5,640	9,050	7,820	9,485	840	50475	27750	25770	49570	2490	1575	197,945	8.00%
CAFÉ	4,173	3,639	4,005	5,548	8,565	7,472	12,000	24,643	11,309	17,772	6,142	5,764	111,032	4.49%
SERENGETI	3,250	2,250	750	3,375	6,250	4,750	2,125	7,346	5,250	9,405	4,500	1,250	50,501	2.04%
BELLEBNNO	3,000	1,500	-	-	-	-	2625	14790	1260	5400	9143		37,718	1.52%
DONATIONS	-	-	-	-	3,000	500	2300	5000	5900	300	0	90	17,090	0.69%
SERVICES	0	0	0	0	0	0	0	0	0	0	1790	2562	4,352	0.18%
Cheese	140	134	85	438	926	305	1330	2060	40	32.65	140.2	180	5,811	0.23%
EXCLUSIVE	-	-	-	-	-	-		7272	0	16160	16535	0	39967	1.61%
TOTAL	124,552	101,469	116,093	131,688	173,709	117,548	302,296	448,925	220,967	380,069	241,056	116,428	2,474,800	100.00%
VISITORS	403	349	302	486	519	297	685	1172	548	1023	587	298	6,669	
Avg Exp/ Visitor	309.83	290.74	381.4	270.96	332.45	395.79	441.31	383.04	403.22	371.52	410.66	390.70	371.09	

Sources of CCF's Tourism Income - 2013 (N\$)

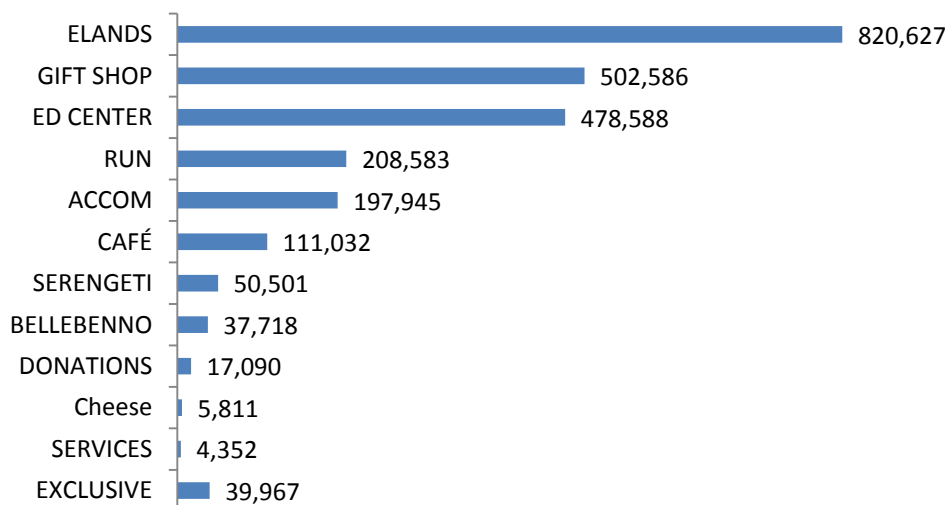


Figure 24. Sources of tourism income (Namibian \$), Jan-Dec-2013.

The total number of guests staying at CCF's luxury accommodation, the Babson Guest House, totalled 109, representing a 14.70% growth compared to the same period last year, when the total number of Babson House guests was 95. April and October were the highest occupancy months with 45% of the total.

In terms of revenues, the Babson House generated N\$567,040, with April, followed by October, as the highest-income months (Figure 25). However, we are not co-relating income vs. visitors as payment arrangements vary (advanced vs. on site vs. payment through lodges, booking agents or other CCF entities).

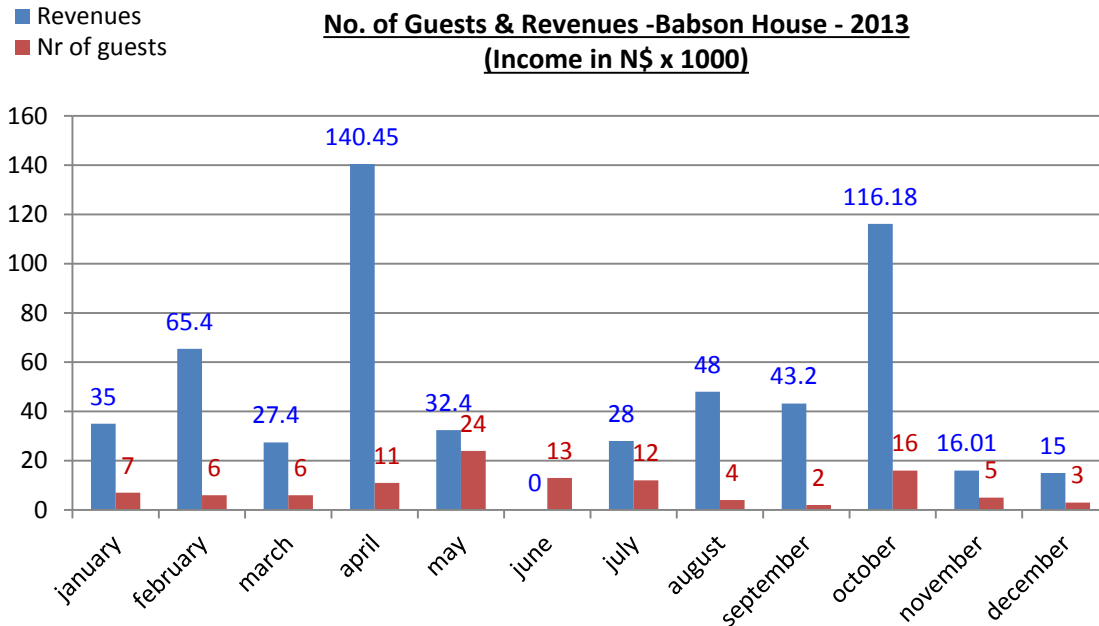


Figure 25. Babson House income and number of guests (N\$ x 1000), January-December 2013

3. Food Expenses

The amount of people to cook for differs every day in accordance with the numbers of guests, EW volunteers and interns arriving and leaving.

Table 25 shows the amount of lunches and dinners that were cooked each month at CCF's community dining room, the Hot Spot. Considering three meals per individual per day, the average amount of meals cooked in 2013 was estimated at 38,871.00.

Table 25. Amount of meals served at CCF's Hot Spot, Jan-Dec-2013.

	January	February	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Lunch	1073	1039	1040	1321	1074	1026	1288	1482	861	972	922	889
Dinner	1073	1048	1226	1315	1076	1047	1020	1277	866	948	936	895
Average	1073	1043.5	1233	1318	1075	1036.5	1154	1379.5	863.5	960	929	892

Over half of the meals (57%) served at the Hot Spot were for CCF staff members. Volunteers and interns represented 29%, while Earthwatch and other guests represented approximately 12% (Figure 26).

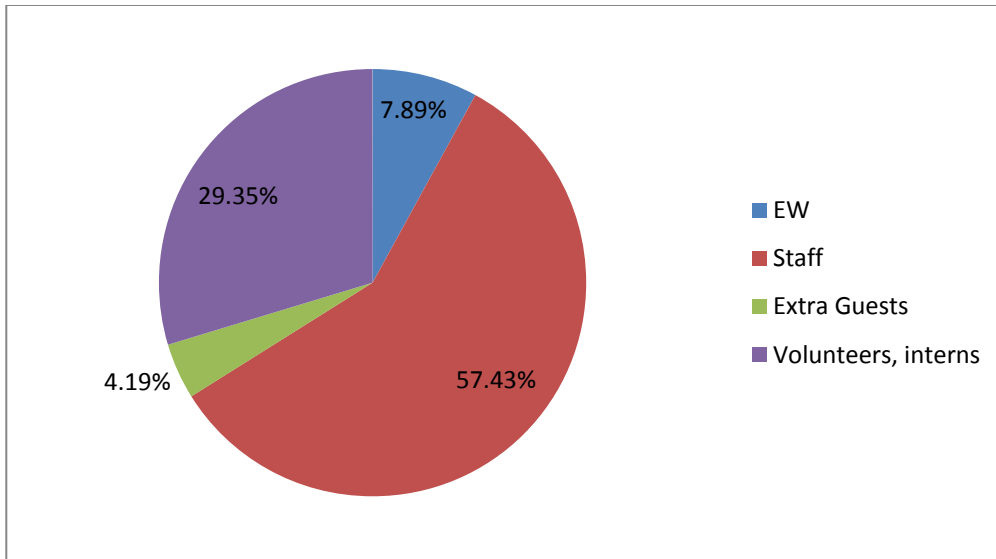


Figure 26. Overall categories of people served at the Hot Spot.

The estimated amount of meals for Babson House guests between January and December 2013 represented 1.90% of all meals cooked (Figure 27).

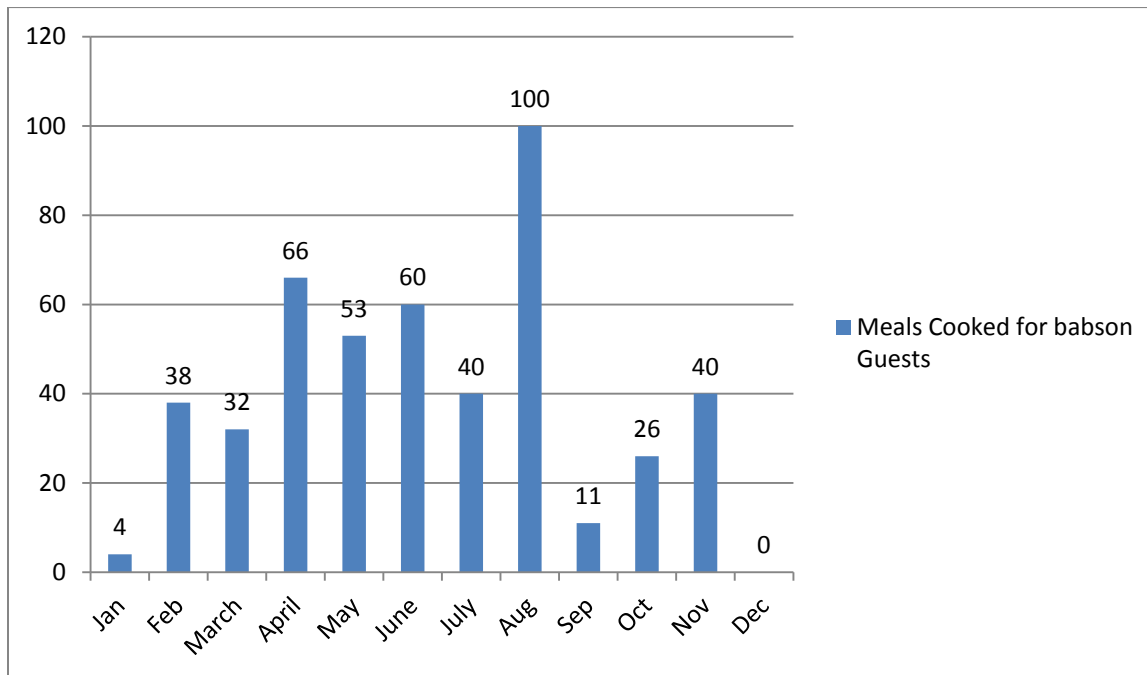


Figure 27. Monthly amount of meals for Babson House guests. January-December 2013.

4. Marketing

In June 2013, CCF received a Certificate of Excellence from TripAdvisor for 2013. This award is given to tourism businesses that consistently receive high ratings from TripAdvisor travellers. Only the top 10% of businesses worldwide on TripAdvisor receive this award.

CCF's marketing agent, Exclusive Reservations, continues to support our eco-tourism efforts, both with bookings and its objective of transforming the CCF brand to make it distinctive and different. Exclusive participated in the 15th Annual Namibia Tourism Expo organised by the Republikein newspaper and supported by all Namibian tourism organisations, including the Namibian Tourism Board (NTB). At the Expo, held from 29 May to 1 June, the Exclusive stand displayed CCF images and promotional materials. A couple of members of the CCF Tourism staff attended the Expo to actively promote the CCF experience with Expo visitors. Additionally, CCF continues to support NTB's promotional efforts and this year hosted a film crew shooting a tourism DVD about Namibia and four travel bloggers working for NTB's online marketing campaign called "Go Big Namibia."

Attractions that encourage tourism operators to market CCF as a tourism destination continue to be evaluated, as are 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. We are actively promoting our social media websites - Facebook, Twitter, Blogger, YouTube, Trip Advisor and LinkedIn to all guests visiting CCF.

5. Visitor Attractions

With the opening of CCF's Dancing Goat Creamery early in 2013, a few new menu items were added at the Cheetah Café, including the CCF Goat Cheese Platter, baked Feta, fresh muffins, scones, quiches, a cake of the day, and the goat milk ice cream that is quite popular during hot days. Fudge produced at the Creamery is also offered for sale at the Gift Shop. In total, the Creamery supplied the Café and Gift Shop with 104 kg of product, including cheese, fudge, and ice cream.

The Cheetah Café was upgraded with new tablecloths and curtains. However, after a lightning fire on 16 October destroyed the CCF Visitor Centre, which housed the Cheetah Café, the café was re-opened at the Tourism office in the Cheetah Museum building. New curtains and table clothes were made to provide a warm atmosphere to guests and the menu was slightly modified. A special board allows the addition of new menu items daily. Our famous cheese platters and baked feta are still favourites among customers as is our ice cream on hot days. To facilitate the effectiveness of the kitchen and the swift movement of customers through the lunch period, CCF continued to offer set menus and buffets to larger groups and now also offers booked lighter lunches like cake and coffee. Increasingly, large groups are booking lunches at the Café, including many repeat customers such as the Mambaruri tour groups.

Sales at the Cheetah Café for this period totalled N\$11,032 (Table 26), with the lowest sales during low season (Jan-June) and in the last quarter following the Visitor Centre fire resulting in the Café relocation and limited menu. Efforts are underway to increase the number of booked luncheons and expand the menu in 2014.

Table 26. Cheetah Café sales. Jan-December 2013

Month	Pre-Booked (N\$)	A la Carte (N\$)	Total (N\$)
January	668	3,505	4,173
February	398	3,241	3,639
March	654	3,351	4,005
April	-	5,548	5,548
May	1,638	6,927	8,565
June	2,352	5,120	7,472
July	-	12,000	12,000
August	1,950	22,693	24,643
September	1,276	10,033	11,309
October	6,930	10,842	17,772
November	3,510	2,632	6,142
December	-	5,764	5,764
Total Sales	19,376	91,656	111,032

Efforts are underway to increase the number of booked luncheons and expand the menu in 2014.

E. Association and Conservancy Relationships

1. Cheetah and Wild dog Conservation Planning Workshop

The Namibian Ministry of Environment and Tourism (Scientific Services) hosted a two-day conservation planning workshop for the African wild dog and cheetah in Otjiwarongo in April. The meeting was attended by stakeholders and partners in the conservation of large predators, especially the cheetah and wild dog. Topics during the first day were dedicated to the cheetah included an overview on the status and distribution of cheetahs in the southern African region and main threats to survival, as well as status and distribution of cheetahs in Namibia and threats to survival (MET). Then the vision and goals of the regional strategy were reviewed to ensure they are relevant to the national strategy, the objectives of the regional strategy were reviewed, and additional objectives pertinent to Namibia were identified. CCF's General Manager, Dr. Bruce Brewer, and CCF's Senior Ecologist, Matti Nghikembua, represented CCF at this workshop.

As a result of the workshop, a National Conservation Action Plan for Cheetah in Namibia was drafted and is currently under review.

2. Large Carnivore Management Association (LCMAN)

CCF continues its work with the LCMAN as one of the stakeholders of this group of NGOs, researchers, farmers, and governmental departments. 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.

Dr. Bruce Brewer attended an LCMAN meeting in Windhoek on 29 May 2014. At the meeting, a survey amongst members was suggested in order to identify key areas where the association should focus. A decision was made to review LCMAN's terms of reference to encourage new members to join.

On 19 March, Dr. Laurie Marker, Dr. Bruce Brewer, and Dr. Anne Schmidt-Küntzel attended an LCMAN meeting to discuss the draft Guidelines for Large Carnivores in Namibia for incorporation into Namibia's National Action Plan.

In April, the Etosha Ecological Institute (EEI) requested LCMAN to provide graphics and information for posters to be updated at the Etosha National Park's visitor centre located in Okaukuejo. EEI was seeking to source information regarding predator conservation in Namibia, with specific reference to carnivore species found in the Park: lion, spotted hyena, cheetah, and wild dog, as well as trans-boundary research. CCF contributed to this effort with images and a poster depicting all of the carnivores found in Namibia.

On 2 August 2013 Drs. Laurie Marker and Anne Schmidt-Küntzel attended the LCMAN meeting in Windhoek where Dr. Anne Schmidt-Küntzel gave a presentation on cheetah genetics. At the meeting future activities were discussed; Dr. Ingrid Wiesel gave a presentation on brown hyaena research; a financial overview was discussed; a public GPS database for translocated large carnivores was discussed; and a new LCMAN chairperson and committee members were elected.

3. Conservancy Association of Namibia (CANAM)

After serving as Chairperson of CANAM for six years, Dr. Laurie Marker continues to support CANAM's efforts throughout Namibia; however, CANAM has not been very active since 2011. This year CANAM held their AGM in April. CCF's Senior Ecologist, Matti Nghikembua, attended and presented information about the Waterberg Conservancy and the Greater Waterberg Landscape.

4. Waterberg Conservancy

Drs. Bruce Brewer and Laurie Marker attended the Waterberg Conservancy AGM in April. CCF is a founding member of the conservancy.

5. Greater Waterberg Landscape

CCF's International Field Research and Education Centre is neighbour to the Waterberg National Park and is on the steering committee of the Greater Waterberg Landscape (GWL). The GWL encompasses some 1.77 million hectares, including the Eastern Communal lands known as Hereroland. CCF is working with the communal conservancy farmers in the GWC to assist in habitat restoration, reintroduction of wildlife into the target area, and training of integrated wildlife and livestock management skills. When fully operational, these communities will be empowered to manage and develop their livestock and wildlife resources, restore their land to productive use, and promote tourism.

The Namibia Protected Landscape Conservation Areas Initiative (NAMPLACE), a Ministry of Environment and Tourism (MET) project working in association with the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF), is currently administering a five-year development plan for the GWC. NAMPLACE is responsible for selecting and implementing developmental projects that will benefit the community, satisfy the needs of the people, and assist in the progression of the region.

CCF was selected by the NAMPLACE steering committee to implement a needs assessment survey for the project encompassing several conservancies and commercial farms within the GWC. The survey was conducted in November 2012, after which CCF analysed the data and presented the results to the GWL leadership in January 2013. As part of the GWL with ecological and research expertise, CCF is playing a role in the implementation of the various recommendations and action plans resulting from the survey, including farmers’ training courses and alternative livelihoods. In 2013, CCF attended 7 GWL meetings and brought on Jackson Hindjou as our community liaison to push our interests with GWL and to ensure that initiatives laid out are carried forward.

F. 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 2012 International Cheetah Studbook was published in December 2013. The captive cheetah population for 2012 was 1661 (858.798.5) in 44 countries in eight geographical regions (Figure 28).

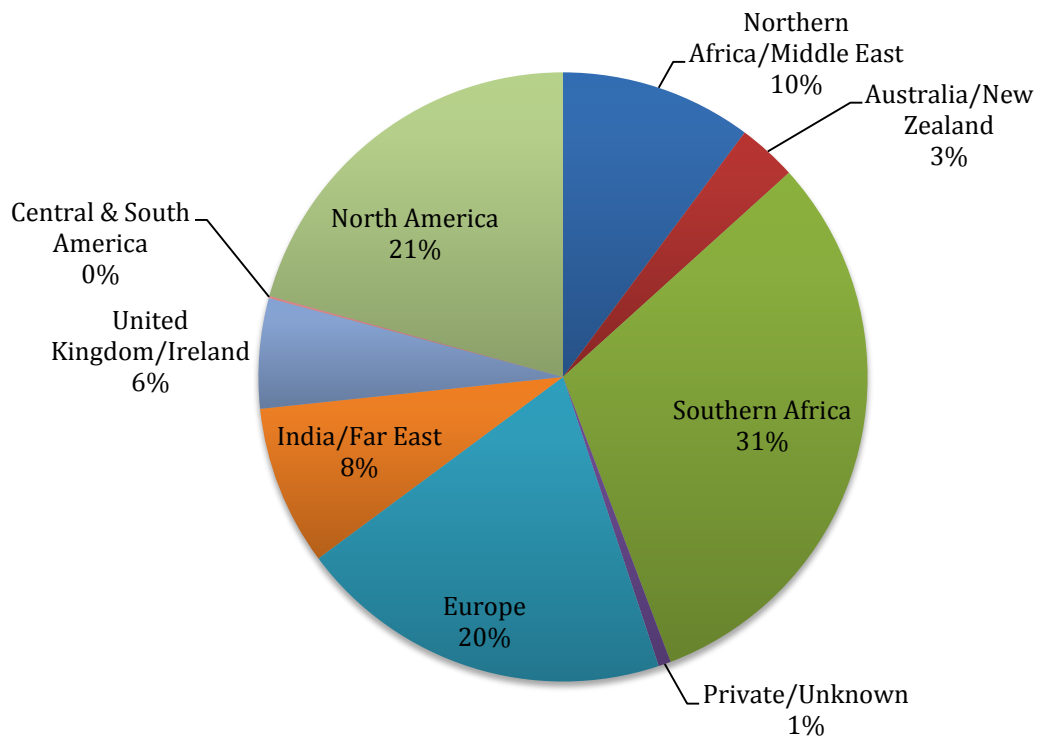


Figure 28. Preliminary 2012 Captive Cheetah Population by Region, 1661 (858.798.5) Cheetahs

From 1 January 2012 to 31 December 2012, 408 (200.186.22) new animals were registered; representing births and newly imported wild-caught animals during this period, as well as animals that had been brought into the captive population prior to 1 January 2012 but the Studbook Keeper had not received notification until after the publication of the 2011 Studbook. Of the new additions, 223 (102.104.17)

were births and 16 (5.10.1) animals were wild caught and transferred to three known and one unknown facilities in Namibia and one facility in Ethiopia. There were 169 (93.72.4) late registries. Of these, 110 (59.47.4) were captive born, 49 were wild-caught (28.21.0), and 10 (6.4.0) were of unknown origin. Many of these 169 cheetahs were historic animals and therefore only 108 (61.47.0) of these are still alive in the 2012 captive population.

The births represent an increase in productivity from 2011, when 172 cubs were born. Total cub deaths less than six months of age were 48 (19.16.13), which represents 21.52% cub mortality. This is a decrease from the 2011 cub mortality, which was 24.42% (42 cubs). At the end of 2012 there were 274 (126.146) proven breeders, or animals that have bred at least once, alive in the captive population (this number does not include three females and one male that bred during 2012, but died before the end of the year). Only 115 (50-53.62) animals, or 6.9% of the 2012 captive population, successfully bred. Of these, 13 (7.6) animals, or 11.3%, were wild-caught. There were a total of 156 (76.67.13) deaths reported in 2012, including cub deaths.

2. International Meetings

ConGen (Hoedspruit, South Africa) – May 2013

Dr. Laurie Marker and Dr. Anne Schmidt-Küntzel attended a genetic conservation course called ConGen in Hoedspruit, South Africa. The course was organised by CCF USA's Board of Directors' Chair, Dr. Steve O'Brien, and the American Genetics Association. Dr. Marker was the final presenter of the evening lectures on conservation, while Dr. Schmidt-Küntzel taught one of the lessons concerning conservation genetics using non-invasive samples, including theory and the examples that are being worked on at CCF.

Emirates Natural History Group (UAE) – May/June 2013

Dr. Laurie Marker travelled to the United Arab Emirates for 10 days in late May, at the invitation of the Emirates Natural History Group (ENHG). Dr. Marker presented her talk "Cheetah Futures" in three cities: Al Ain, Dubai and Abu Dhabi. She also lectured at Zayed University in Abu Dhabi, the Dubai Municipality, and the Central Veterinary Research Laboratory in Dubai. These were Dr. Marker's first public appearances in a Middle Eastern country, with a total of about 450 attendees and extensive coverage by some of the Emirates' most important English-speaking media outlets.

21st European Biomass Conference & Exhibition (Denmark) and Elmia Wood: The Whole World's Forestry Fair (Sweden) – June 2013

On 3-5 June, CCF Bush's General Manager, Dr. Bruce Brewer, attended the 21st European Biomass Conference & Exhibition in Copenhagen. The conference theme was "Setting the Course for a Biobased Economy" and included the presentation of various scientific papers. Dr. Brewer met with a colleague developing a biomass equity fund that may encourage investment in biomass energy in Africa, which fits with our Clinton Global Initiative Commitment. He then proceeded to Sweden to attend the Elmia Wood: The Whole World's Forestry Fair. This is the world's biggest forest expo. At the fair, Bruce had an opportunity to meet with the supplier of VIMEK harvest machines (see below) and with the Caterpillar forestry group (Clinton partners).

International Conservation Caucus Foundation (ICCF) in Rwanda – August 2013

In August, Dr. Marker accompanied a group of U.S. Senators with the International Conservation Caucus Foundation (ICCF) on a trip to Rwanda to see first-hand Rwanda's success with conservation of their mountain gorillas through ecotourism and how the new industry has brought stability to the region. Dr. Marker functioned as the conservation consultant for the trip, and gave a talk at a conference that the president of Rwanda attended about conservation and sustainability and the vital role that government plays.

19th Session of African Forestry and Wildlife Commission – September/October 2013

Dr. Bruce Brewer attended the 19th Session of African Forestry and Wildlife Commission in Windhoek at the end of September. He held a booth representing CCF and Bushblok and gave a lecture about bush encroachment in Namibia and CCF's Bushblok programme.

3. Illegal Wildlife Trafficking

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's Assistant Director of International Programmes, Patricia Tricorache, has been monitoring illegal cheetah trafficking and assisting with confiscations through the proper authorities whenever possible. Even though the intrinsic nature of illegal wildlife trafficking makes it difficult to collect full or reliable information, CCF has knowledge of at least 598 cheetahs that were victims of the illegal wildlife trade gathered between direct reports and various media articles.

Although geographically widespread, most of the cases compiled by CCF involve the Horn of Africa (HoA) and the Middle East. During this period, CCF compiled 31 cases of illegal cheetah trafficking involving 141 cheetahs, compared to 33 reports involving 112 cheetahs in 2012. Twenty-four of the 141 cheetahs are confirmed dead, while the fate of 99 is unknown. Of the remaining 18 alive cheetahs, two were being held as evidence by Botswana authorities, three are pets in the UAE, eight were part of two government officials' menageries in Ethiopia and Somaliland, and one was a wild "king" cheetah offered for sale by a game dealer in South Africa. Two more were being held at a private zoo in Egypt. Five cases involving 36 cubs were reported to the Ethiopian Wildlife Conservation Authority for follow up, including one also reported to the US Embassy in Addis Ababa as it involved an Ethiopian regional government official. Eighteen of the compiled reports involving 105 cheetahs originated in the Horn of Africa, all of them originating in the Somali area of Ethiopia and Somaliland (Figure 29).

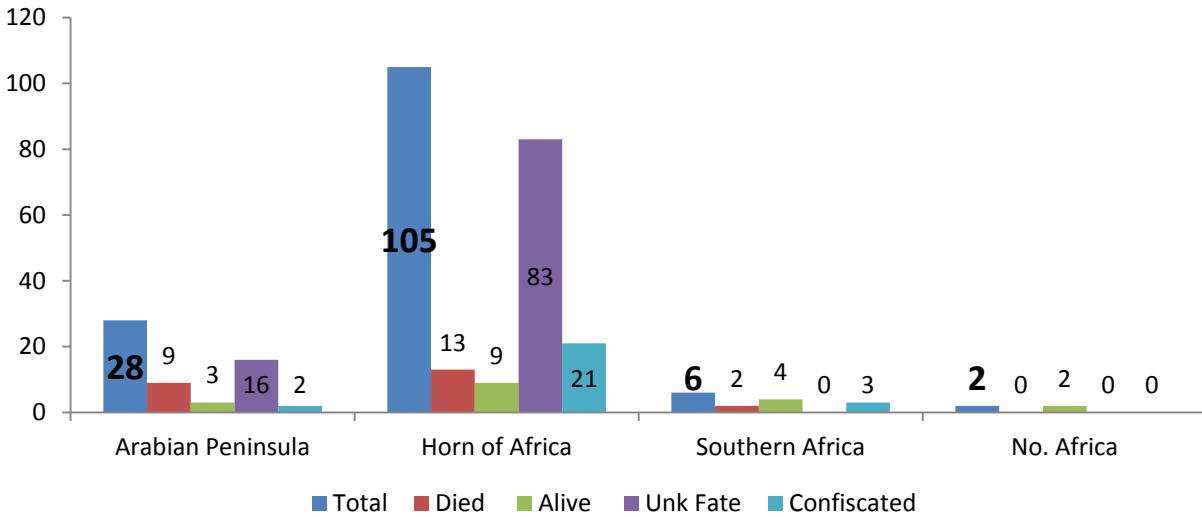


Figure 29. Summary of illegal cheetah trafficking by geographic region. Jan-Dec 2013

CCF collaborated with an investigative reporter conducting research on the illegal pet trade issue in Yemen. The reporter informed CCF that, during his investigation, he came across at least 15 cheetah cubs available for sale in Beit, al Fakh, or Mandab.

The HoA continues to be an area of particular concern due to political and economic factors that make enforcement more difficult as well as its proximity to the Arabian Peninsula, an area where demand for exotic pets is high. Confiscation attempts by CCF and its network were unsuccessful during this period as more and more officials are requesting some compensation for confiscating illegal wildlife.

The single cheetah cub that was still alive in 2012 and being housed at the Ministry of Environment died of starvation. The Ethiopian Wildlife Conservation Authority was also unsuccessful in all cases of cheetah cubs reportedly being sold near the border with Somaliland, and despite efforts by CCF and its network, no confiscations took place during this period.

The CCF team has begun to collect genetic samples from cheetahs in the UAE and Horn of Africa, whenever possible, to start a database that might allow us to identify the geographic origin of smuggled animals. The samples are brought and stored in Namibia under the proper CITES permits.

Public Policy

A major achievement this year was the adoption of a [resolution](#) at the CITES 16th Conference of the Parties held in Bangkok in March 2013. The CITES Secretariat resolved to contract independent consultants, subject to funding, to undertake an independent study of “both the legal and illegal trade in wild cheetahs, and to assess the impact of this trade on the species’ conservation in the wild.” The resolution specifies that the study “should aim to determine the source of cheetahs in illegal trade, and the transit routes of illegally trafficked cheetahs, and should document the measures taken by Parties with regard to deal with or dispose of live confiscated specimens.” This resolution, resulting from a document submitted by CITES Parties Kenya, Uganda, and Ethiopia, called for a range-wide consultation for a detailed CITES-authorized study on the legal and illegal trade in cheetah and for assistance in that

process across all range states. The document included data on illegal cheetah operations compiled by CCF in its capacity as member of the Coalition Against Wildlife Trafficking (CAWT).

In the United States, Dr. Marker and CCF staff have been active during this period in monitoring several important issues and government policies that affect the cheetah.

- In May, Dr. Marker attended a meeting with USAID officials to discuss the Wildlife Trafficking Tech Challenge being undertaken by that agency, which hopes to combat illegal wildlife trafficking by encouraging technological innovations to fight poaching.
- Also in May, Dr. Marker gave a briefing to Congressional staffers on the issue of the illegal pet trade and its affect on the wild cheetah population, as well as how this intersects with the greater issue of wildlife trafficking.
- Communications Coordinator Liz Georges has been monitoring activity by the US State Department and the US Fish and Wildlife Service on the issue of illegal wildlife trafficking. She has met with top officials handling the issue at USFWS and attended a briefing by Undersecretary Robert D. Hormats in advance of the Executive Order issued by the Obama Administration articulating new enforcement initiatives.

United Arab Emirates Visit

During Dr. Laurie Marker's lecture tour in the United Arab Emirates, a concerted effort was made to make new connections in order to learn more about the issue of cheetahs being kept as pets. As a result of meetings held with several cheetah breeding facilities that are registered with the International Cheetah Studbook, as well as with veterinarians, NGOs, government officials, media, and individuals, CCF has set as its goals to improve the care of cheetahs that are already in captivity and to reduce the demand of cheetahs as pets, especially those that are obtained through illegal sources. Although the UAE government has made efforts to curb this practice, until the general public becomes aware of the issues associated with this practice the problem will persist.

Dr. Marker was joined on this trip by CCF's assistant directors for Animal Health and Research and for International Programmes, Dr. Anne Schmidt-Küntzel and Patricia Tricorache. Anne, CCF's geneticist, was instrumental in explaining the vulnerability of the cheetahs in the wild as well as the importance and benefits of gathering genetic samples of captive cheetahs held in the UAE, both in registered and private facilities. Patricia's eight years of work on the illegal wildlife trafficking issue gave CCF access to connections and provided a frame for open discussions. Together the three were able to gather and share valuable information with all stakeholders. CCF is now considering various options that will allow it to address regulatory issues as well as cheetah husbandry, reproduction, genetics, health, specimen collection, etc.

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 both critical to its survival.

CCF continues to host school groups of all ages at Camp Lightfoot and visit schools as part of our outreach programme. CCF also continues to host national and international university students and interns. In addition, CCF hosted approximately 20 educators participating in the Annual Conference of the Namibia Environmental Education Network (NEEN) held at the Waterberg Plateau Park in May. CCF Education Officer Ignatius David was a conference participant.

A. Future Conservationists of Africa

In 2013 the CCF Education team reached 10,738 Namibian children and youth through school outreach and Centre-based programmes, compared with 11,448 during the same period in 2012.

CCF is a member of the Museum Association of Namibia (MAN), an umbrella organisation that represents all the museums in Namibia. It provides training workshops for individual museums and regional museum development workshops for regions that currently do not have any museums. During this period, CCF's Education Officer Ignatius David attended the MAN's AGM held in Omaruru in May. The meeting provided an opportunity to discuss MAN's 3-year plan and grant projections.

1. School Outreach

Fifty-nine schools were visited during the first six months of 2013, compared to 33 schools during the same period last year. Over 9,000 children learned about cheetah behaviour, ecology, conservation, and how people can help save the cheetah during 45-minute presentations by the CCF staff. The total number of learners who received CCF's education programmes during this period represents a 62% increase compared to 5,801 learners during the same period last year.

In February, the CCF team conducted outreach at 15 schools in the Erongo Region (Walvis Bay and Swakopmund), reaching 2,703 learners in grades 4-12.

In March, the team travelled to the Otjozondjupa region to impart conservation education programmes at 15 schools, involving 1,523 learners in grades 5-8. During the same month, the team travel to Rehoboth in the Hardap region to visit four schools, reaching 710 learners in grades 5-7.

In May, nine schools were visited in the Omaheke and Otjozondjupa areas, where the team reached 1,564 pupils in grades 4-8.

Finally, in June, the team visited 10 schools in Windhoek, reaching 2,201 learners in grades 5-7; and six schools in the Kunene area, reaching 703 learners grades 5-7.

There was no school outreach done during the second half of the year (July-December) as the Namibian schools third term is primarily dedicated to exams and assessment.

2. Centre-based Programmes – Primary to High School

Organised education programmes at CCF involved 37 groups (1334 children and youth), accompanied by 165 teachers, parents, or volunteers (Table 27). Of these, 17 groups (581 children and youth), accompanied by 76 teachers, parents, or volunteers, participated in overnight programmes at CCF's Camp Lightfoot or Cheetah View. Depending on the length of stay and the group focus, activities included cheetah runs, museum tour, guarding dog and goat kraal talks, predator kill identification

exercises, ‘preyground’ activities, ecological talks, and game drives. Day programmes involved 20 groups (753 children and youths), accompanied by 89 teachers, parents, or volunteers, with the highest number of groups visiting during July, August, September, and October. Many of the day groups couldn’t be hosted overnight for reasons such as group sizes (sometimes over 50 or 60 children), kids’ age, or overlapping dates.

Table 27. Namibian schools hosted by CCF during 2013

Date In	Date Out	School	Learners	Adults	Total
19/04/2013	21/04/2013	Katove Vateri Children’s Home	20	5	25
13/05/2013	14/05/2013	Ponhofi Senior Secondary School	59	6	65
24/05/2013	26/05/2013	Waterberg Junior Sec School	24	6	30
14/06/2013	16/06/2013	Eengedjo Senior Secondary School	21	3	24
05/07/2013	07/07/2013	Westside High School	20	2	22
12/07/2013	14/07/2013	Emma Hoogenhout * at Cheetah View	53	7	60
26/07/2013	28/07/2013	SOS Children Home	30	5	35
19/08/2013	20/08/2013	Peace Corp School Group	40	2	42
22/08/2013	24/08/2013	Garoeb School	30	5	35
11/09/2013	13/09/2013	St Paul College – Group 1	23	2	25
15/09/2013	17/09/2013	Amazing Kids Private School* At Cheetah View	34	3	37
18/09/2013	20/09/2013	St Paul College – Group 2	23	2	25
04/10/2013	06/10/2013	Ekhya Primary School at Cheetah View	20	4	24
16/10/2013	18/10/2013	Ubaisen Primary School	29	6	35
01/11/2013	03/11/2013	Omatjete Primary School	33	2	35
08/11/2013	10/11/2013	Evangelical Bible Church	30	4	34
03/12/2013	05/12/2013	Liberty Heritage School	30	4	34
Total Overnight School Groups			581	76	657
05/07/2013		Lerico Safaris – Oshivelo school	30	2	32
10/07/2013		Pendulceni ECD	30	7	37
09/08/2013		Khaivasen Pre Primary	21	3	24
21/08/2013		Okelemba Combined School	56	3	59
22/08/2013		Erongo Primary School	40	6	46
23/08/2013		Salmon Boys Primary School	21	6	27
23/08/2013		Okakarara Primary School	40	8	48
08/09/2013		Lingua College Windhoek	32	3	35
17/09/2013		Usiel Ndjavera Primary School	63	7	70
21/09/2013		Silas T Johannes	29	7	36
02/10/2013		!Hare-Wado Pre-Primary School	30	3	33
06/10/2013		International Primary School	50	3	53

10/10/2013		Otavi Primary School - Group 1	40	3	43
17/10/2013		Otavi Primary School - Group 2	40	3	43
19/10/2013		Uitokoms Primary School	56	6	62
30/10/2013		Private School Moria	25	1	26
30/10/2013		Joseph Simanelca Junior Secondary School	50	3	53
07/11/2013		Spes Bona Primary School	33	4	37
07/11/2013		Orwetoveni Primary School	50	8	58
16/11/2013		Peri Naua Pre-Primary School	17	3	20
Total Day Visitors			753	89	842
Total Education Programmes Visitors (Namibian)			1334	165	1499

3. 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 in-service training programmes for students from the Polytechnic of Namibia or University of Namibia (UNAM). 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 12 student interns. This includes five students from the University of Namibia: Titus Shanika (BSc Hon Fisheries and Aquatic Sciences), Philipus Shilongo (BSc Hon. Animal Sciences), Rosalia N.T. Ndiweda (BSc Animal Science), Nicolene Hepute (BSc Agriculture – Food Science), and Josephine N. Iita (BSc Agriculture – Food Science). Nicolene and Josephine worked closely with our food services department and the Dancing Goat Creamery.

Paulus Mwatenga, a final year student (BTech Agriculture Management) at the Polytechnic of Namibia completed a six-month internship during this period. Mwatenga conducted research on the evaluation of milk production between crossbreed and purebred dairy goats under thorn bush savannah.

Four tourism interns from the Polytechnic of Namibia and the Lingua College spent about four months with CCF's Tourism and Education staff: Petrus Amakali, Josephina Gabriel, Meriam Shuudi, and Suama Virting Uupindi (Debbie).

Finally, CCF hosted two interns from University of Namibia working in the genetics laboratory, Selma N. Kangongo and Asteria Kapenda.

In addition to in-service training students, CCF welcomes groups from Namibia's higher-education institutions to participate in programmes aimed at enriching their skills in various study areas. Between 1 January and 31 December, CCF hosted four groups from University of Namibia (UNAM). A total of 62 Namibian university students and eight teachers participated in various aspects of CCF's work in the areas of Wildlife Management, Environmental Management, and Tourism. CCF also hosted a group of nine teachers from the Oshikoto Council in August (Table 28). All groups stayed at CCF's Camp Lightfoot.

- Two groups from UNAM Katima campus spent two days each at CCF in March and August to learn about wildlife management. Each group included five students and one or two professors.
- Thirty one students and three professors from UNAM, participating in Biogeography, Applied Biogeography, and Environmental Management courses, spent three days at CCF from 1-4 April. The group consisted of students that are completing their BSc Honours in Environmental Biology as well as students participating in the MSc Biodiversity class.
- On 10-11 May, CCF hosted 21 students and one professor from UNAM's Tourism Society. The Society is instituted to work towards exposing UNAM tourism students to the Namibian tourism industry and to establish a good working relationship with the industry. The programme included activities that CCF visitors are exposed to, such as a walking tour of the CCF Cheetah Museum, the veterinary clinic, the Model Farm, and cheetah-related activities.

Table 28. Namibian higher-education groups visiting CCF during 2013.

Date In	Date Out	School	Learners	Adults	Total
27/03/2013	28/03/2013	UNAM KATIMA	5	1	6
01/04/2013	04/04/2013	UNAM	31	3	34
10/05/2013	11/05/2013	UNAM	21	2	23
18/08/2013	19/08/2013	Oshikoto Council Teachers		9	9
21/08/2013	22/08/2013	UNAM KATIMA	5	2	7
Total Higher Education Visitors (Namibian)			62	17	79

B. Future Farmers of Africa

This year CCF's farmers' training focused mostly on the Greater Waterberg Landscape, an area comprising 4 million acres, where CCF imparted two training courses reaching approximately 100 people. In addition, CCF worked more with the farmers who already have CCF's Livestock Guarding Dogs and gave training in other Communal Conservancies.

The Otjituuo Conservancy in Hereroland, which also forms part of the Greater Waterberg Landscape, extended an invitation to CCF to visit some of the villages and give them training on management techniques for resolving human-wildlife conflict. This training included anti-predation methods used by CCF and how to correctly identify the predator species responsible for livestock losses, as well as learning from them what methods they currently use and what predation losses they have. On 11-13 March 2013 Matti Nghikembua and Chavoux Luyt visited 6 villages in the Otjituuo Conservancy with Mr. K. Katjiveri, the leader of the conservancy (Figure 30). The local traditional leaders were also visited in order to introduce CCF and the work we do in the conservancies.

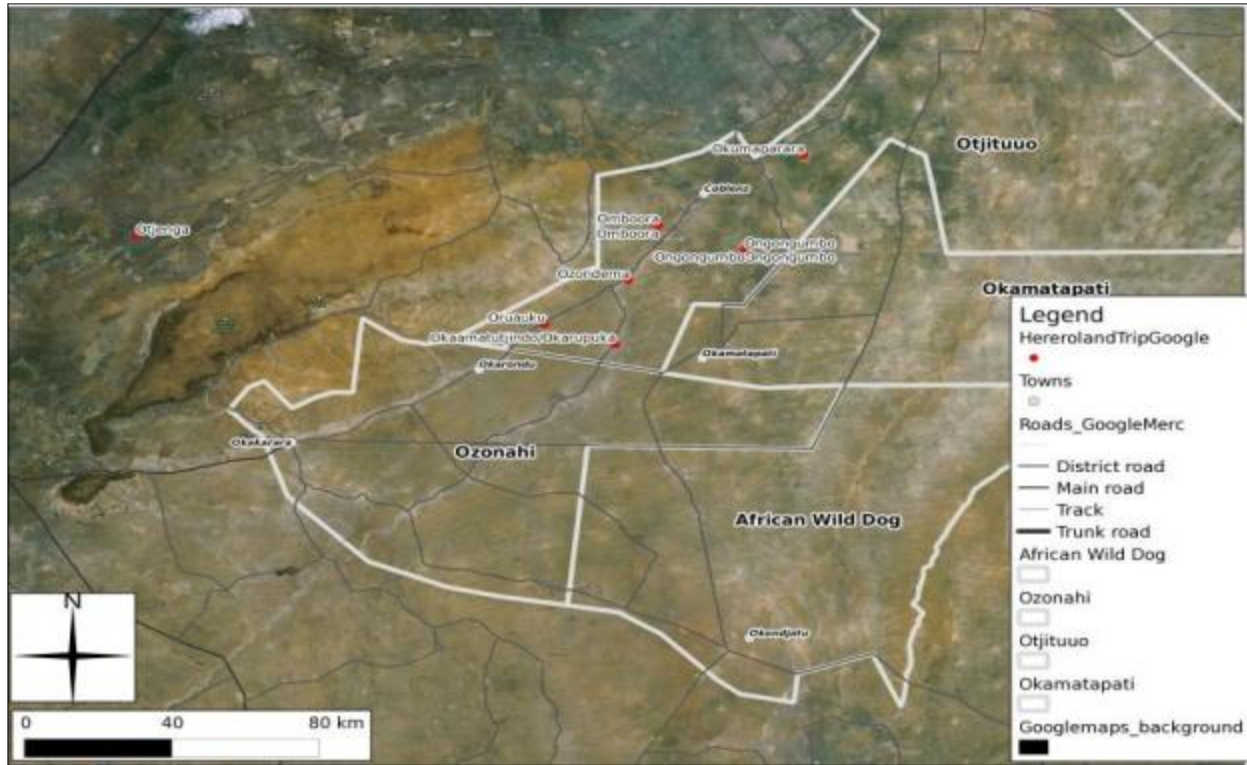


Figure 30. Some of the villages visited in the Otjituuo Conservancy.

During this visit we had the opportunity to give training in the identification of predators at kill sites. We not only taught new methods to protect their livestock but also learnt a lot about the differences between commercial farming and the practicalities for communal farmers when protecting their livestock from predators. The main predators causing conflict were different from area to area because of management differences but possibly also because of inherent ecological and habitat reasons. We realised that CCF's current methods would require adaptations to be applicable in communal areas and further research into this aspect can be of great importance to the communities in the long term. One of the major insights was that overgrazing and bush encroachment meant that the whole eco-system was in need of restoration if we were to ensure that predators had enough natural prey not to need livestock to survive (Figure 31).



Figure 31. Typical view of Hereroland “grazing” - demonstrating our observation during the trip that there was almost no grass left.

On 28-30 May a second training trip was made to 10 villages in the Otjituuo conservancy, but this time a more personalised approach was taken with fewer participants in each village. The current drought was a bigger issue for most farmers than predators but the advice and training were still appreciated and a number of people asked for more information on the CCF’s Livestock Guarding Dog programme.

As part of both training visits, the CCF Guide to Integrated Livestock and Predator Management was given to participating farmers after the training. Further training visits are planned for the future, especially villages in the more northern areas of the Otjituuo Conservancy which has not yet been visited.

In June, CCF hosted two groups from the GWL for fire management training as part of the Namibia Protected Landscape Conservation Areas Initiative (NAM-PLACE) project under the Ministry of Environment and Tourism in partnership with the Directorate of Forestry. This training was identified as one of the priorities for this large Namibian landscape to help prevent the great damage that wild fires cause to the environment and to the community.

The training, attended by 56 participants, included both practical and theoretical approaches to fire prevention and suppression. Participants ranged from members of the communal conservancies, resettled farmers, Parks and Wildlife staff, and CCF members. The theoretical training took the participants through a number of wildfire basics and topics covered ranged from the types and classes of fire, an introduction to fire prevention and the use of suitable fire fighting equipment and methods. The practical session was held with a demonstration of the best fire suppression practices in the field. During this session, participants were given a chance to engage in hands-on suppression of the fire using fire engines.

Also in June, 19 members of the Klein Karas community spent three days at CCF to learn integrated livestock management and alternative livelihoods. The training was the result of a visit by Dr. Marker and staff members to carry out a feasibility assessment and identify what potential there was in the area to implement a dairy goat breeding and rearing project with the use of livestock guarding dogs. Klein Karas is located in the Greater Fish River Canyon Landscape (GFRL), east of Grunau. This is the only community living within the boundaries of the landscape and has been identified as a key stakeholder in sustaining the biodiversity values of the area, thus benefitting from projects to develop sustainable income generating activities. Following the training, one of CCF's Livestock Guarding Dogs and two dairy goats were sent to Klein Karas. This programme was supported by the Ministry of Environment and Tourism's Nam-Place project.

On 9-11 September, Matti Nghikembua and Chavoux Luyt visited four resettled farms south of Etosha belonging to the Kunene Emerging Farmers Association (KEFA). These communities consist of San people, mostly originally from Etosha, who had predator conflict especially with lions and spotted hyenas but also with cheetahs and other predators. The training was done in response to an invitation from the chairman of the KEFA, Mr Adolf Akamara and in collaboration with the Ministry of Agriculture, Water and Forestry. About 78 emerging farmers attended the workshops on 4 different farms. The training was very well received and most farmers were exceptionally open to alternative predation management techniques.

On 22-26 September, Chavoux Luyt, Stephen Upani, and one of CCF's visiting veterinarians, Zoltan Szabo, visited the Otjombinde Conservancy (in Epikuro region, near Botswana border, east of Windhoek) to give training on predator and livestock management. Two communities (Helena and Talismanus) were given training in predator kill ID, predator spoor ID, and livestock management techniques. About 37 conservancy members attended the training workshops. One of the prevailing issues was that currently the conservancy paid money to members who have lost livestock to predators but that it was likely that the government source for these payments would not last forever. The veterinary care of their livestock was also investigated and it was concluded that the government veterinary services were mostly doing a good job of keeping livestock healthy in the area and that a similar approach could work in other communal conservancies.

CCF was invited by the Namibia Development Trust (NDT) to provide training on predator spoor identification and mitigating measures for human-wildlife conflict in two north central conservancies (Uukolonkadhi – Ruacana and Uukwaluudhi). The two north central conservancies are among the top ten throughout the country which are most seriously impacted with regards to the number of Human-Wildlife Conflict incidents and damage to infrastructure, with Uukwaluudhi and Uukolonkadhi-Ruacana in sixth and seventh positions, respectively. This collaboration between CCF and NDT was facilitated with funding from the Millennium Challenge Account Namibia (MCA-N) through the Conservancy Support Services (CDSS). In response to this contract agreement, workshops were conducted in the target conservancies on the 11-12 December 2013. The training was provided by CCF staff Matti T. Nghikembua and Chavoux Luyt, while NDT staff Teofelus Vulika Ntinda and Aina M. Andreas assisted with logistical support and interpretations.

About 34 conservancy members attended the training and the feedback from participants was positive. The participants were actively engaged and were able to make full benefit of what was on offer. Prior to the training they were asked for their expectations, when they indicated that they wanted to know about the behaviour (e.g. how to approach large predators), track identification, killing techniques, and mitigation measures. During the early stages of training the participants demonstrated a basic

knowledge of most common predators, however by the end they were able to successfully identify the tracks belonging to different predators as well as kill characteristics. In addition to this, their knowledge of predator diet and behaviour was also developed through the training.

For 2014 a number of other conservancies already asked CCF to assist them with training on predation prevention methods for farmers and this remains an area of significant contribution by CCF to the future of the cheetah.

C. Community Outreach

On the weekend of 3-4 May 2013, four CCF staff members, Paul and Hanlie Visser, Juliette Erdtsieck, Chavoux Luyt, and one visiting researcher, Christina Whiteman visited the Outjo Game Festival (*Figure 32*). Among the many attendees who stopped by the CCF stand some requested to be contacted with more information about CCF while others expressed specific interest in CCF's Livestock Guarding Dog programme. Farmers shared their problems with predators and in general were open for more information. In addition to various information sheets on farming management and predators, some of CCF's goat cheese was available for tasting as a product of CCF's predator-friendly Model Farm.



Figure 32. The CCF stall at the Outjo Game Festival.

In February 2013, CCF met with some of the Namibia Agricultural Union leadership in order to discuss future collaboration. It was decided that CCF should contact local farmers associations in order to create greater awareness among farmers of existing anti-predation methods and predator-friendly farming. After writing a letter to the regional agricultural unions, CCF was invited to speak at the Hochfeld Farmers Association meeting of 16 May 2013. Chavoux Luyt and Christina Whiteman, a visiting researcher from South America working on human-wildlife conflict, attended the meeting with approximately 50 farmers in attendance. Although some farmers were very sceptical, the reception was mostly positive and it offered a good opportunity to learn about some alternative methods some farmers use. Some farmers pointed out that there appeared to be an increase in leopards in areas where there only used to be cheetahs before.

CCF will continue to seek out invitations for talking at farmers associations and will be actively contacting more farmers associations for future meetings. In addition, CCF continues to participate in agricultural shows and was present at three shows in 2013.

- Otjiwarongo Agricultural Show (9-12 September).

The show is in the process of being revamped to focus on agriculture again, with a 5-year plan for growing it into the foremost agricultural show in the area. This year was the first year of this process and attendance by farmers was low. The drought was largely to blame, but there were also other factors like the show coinciding with the Paresis Cattle Auction. The CCF stall had relatively few visitors this year, but we hope that in coming years both the attendance by farmers of this show and their awareness of the importance of cheetahs on farmlands will increase.

- Grootfontein Agricultural Show (17-21 September).

The show was well organised but attendance was lower than previous years. The organisers said that fewer farmers attended the show because of the drought, which was also the reason for a lot less livestock being shown and sold. The CCF stall was busy, however, with many interested visitors. The children in particular enjoyed the “Predator Identification Game.” The CCF stand won the first prize at the show for design and impact, information, message and product knowledge, presentation of theme, initiative, and staff attitude and appearance.

- Windhoek Agricultural Show (27 September to 5 October).

Compared to the Grootfontein show, CCF had much less of an impact here, both because our stand was not situated as well and because fewer farmers, who were our target group, attended the show. There were some big school groups, but few individual children had the time to visit the CCF stall. In the future, more educational games that might be suitable for bigger groups could help CCF to better target the children at this show.

The 2013 Namibian Newspaper Cup

The 2013 The Namibian Newspaper Cup was held in Otjiwarongo, the “Cheetah Capital of the World,” over Easter weekend. In light of being selected as the site of this year’s under-20 regional soccer championship, Otjiwarongo decided to highlight their reputation for being the home to the world’s fastest animal by inviting CCF to be a part of this national tournament.

CCF set up a tent at the main entrance to the stadium that provided information about cheetahs and the conservation efforts CCF employs to help ensure the survival of the cheetah. In addition to educational services, the tent served as an arts and crafts centre for children and also offered cheetah face painting. The tent was very popular and at any given time throughout the four-day festival there were several children making cheetah ears and waiting in line to have their faces painted.

CCF also provided decorations for the field and two cheetah mascots. Three cheetah statues were on display on the field, and the mascots ran onto the field with the teams and had their pictures taken with the teams and the player of the match. This year’s winner was the host region, Otjozondjupa. The event was attended by thousands of fans, as well as Namibia’s Prime Minister Dr. Hage Geingob and other Cabinet ministers who attended the final event.

D. CCF Staff Education

In March, Research Assistant Ezekiel Fabiano successfully defended his PhD thesis, Contemporary and Historic Demographics of Cheetahs (*Acinonyx Jubatus*) in Namibia, Southern Africa. Fabiano's PhD studies 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.

E. Other Collaboration with Educational Institutions

The CCF Centre hosted 13 international groups (200 students and 30 teachers-accompanying persons) from international schools and universities participating in education programmes including cheetah runs, tours of the centre, and lectures on human wildlife conflict. Eight of these groups (126 students and 19 teachers) stayed at Camp Lightfoot, while the other five participated in daytime activities (Table 29).

Various groups returned to CCF this year, including Worcester Polytechnic Institute, University of Arizona, Wakefield School, Texas A&M University, and Dartmouth College. In July, a group from Mesa Community College in Arizona visited with their professor Dennis Wilson as part of a Namibia Study Abroad programme. In August, the Miami University of Ohio's Earth Expeditions visited for their seventh consecutive year and assisted with the annual waterhole count.

Table 29. International groups attending educational programmes at CCF, Jan-Jun 2013.

Date In	Date Out	School	Country	Learners	Adults	Total
09/3/2013	11/3/2013	Wakefield School	USA	9	3	12
25/5/2013	27/5/2013	Rhodes University	USA	10	1	11
30/6/2013	01/7/2013	Bundi International School	USA	21	2	23
06/7/2013	10/7/2013	Mesa Community College	USA	11	2	13
13/07/2013	16/07/2013	National Geographic Group 1	USA	21	3	24
07/08/2013	10/08/2013	Earth Expeditions	USA	20	2	22
03/08/2013	07/08/2013	National Geographic Group 2	USA	14	2	16
23/10/2013	26/10/2013	Dartmouth College	USA	20	4	24
Total Lightfoot Overnight Visitors				126	19	145
17/1/2013		Pacific Lutheran University	USA	9	3	12
01/4/2013		Worcester Polytechnic	USA	26	2	28
02/6/2013		University of Arizona	USA	7	2	9
30/6/2013		United Huzhia School	RSA	23	3	26
01/08/2013		Texas A & M University	USA	9	1	10
Total Day Visitors				74	11	85
Total Education Programmes Visitors (international)				200	30	230

In preparation for two National Geographic Student Expeditions that included CCF in their itinerary, the expeditions' organiser, Hannah Gilkenson of Putney Student Travel, spent two days at CCF to become

acquainted with our facilities and plan the group's itinerary. The National Geographic Student Expeditions are part of National Geographic's 125th anniversary special programmes, and included CCF as the culmination of two 21-day Namibian programmes. A total of 37 youth between the ages of 16 and 18 visited CCF in July and August to learn from CCF's staff aspects of cheetah husbandry and veterinary care, ecological research, and integrated predator-livestock management techniques, including predator identification and CCF's famous Livestock Guarding Dog programme. Participants shadowed CCF's experts in tasks including feeding CCF's resident cheetahs, looking after livestock and Livestock Guarding Dogs, and using scat-detection dogs to collect cheetah faeces for genetic analysis.

Prior to their arrival at CCF, the group learned about rhino conservation in Damaraland and tracked leopards at N/a'an Ku Sê, which like CCF is supported by National Geographic's Big Cat Initiative. The students also visited other Namibian landmarks including the Etosha National Park, and the Namib Desert. Participants in National Geographic Student Expeditions utilise photography, film, and other media to develop a special presentation that conveys the messages about conservation issues they encountered during the expedition.

F. Volunteers and Interns

Volunteers are the backbone of CCF and vital in daily operations.

During this period, CCF hosted nine Earthwatch teams totalling 27 volunteers. CCF has worked with the Earthwatch Institute since 1996, welcoming monthly volunteer teams of up to four people each visit. However this was the last year CCF will be having Earthwatch volunteers.

In addition to Earthwatch volunteers, a further 64 international volunteers visited CCF between 1 January and 31 December 2013. Among these were 43 working guests from the USA, Switzerland, Australia, Italy, the UK, Brazil, Hong Kong, France, Spain, Germany and Namibia. Ten of them were returning working guests, including 3rd and 9th time alumni, and five returning after previously visiting CCF on Earth Expeditions. Three working guests were visiting vets and two were visiting from a zoo in the US (Bush Gardens).

In addition to 12 Namibian student interns, 24 international student interns from the USA, Switzerland, Australia, France, Hong Kong, the Netherlands, the UK and South Africa training in veterinary medicine, dairy management, applied biology, ecology and evolution, zoology, animal science, biology, conservation biology, wildlife management, conservation medicine, biotechnology, environmental conservation education and captive wildlife care. In addition, three long-term volunteers (six months) from the United States with backgrounds in wildlife ecology, organic farming and vegetation ecology stayed at CCF. Below are some of the projects that student interns and working guests worked on.

Intern/Volunteer Projects

Andrew Neil Walton, a veterinarian studying for a Masters' degree in conservation medicine at Murdoch University (Australia), conducted a retrospective study of ectoparasites on CCF's sample collection as part of his degree. Ectoparasites routinely collected from cheetah exams were evaluated to provide an overview of the ectoparasites found on Namibian cheetahs and the significance of these to the cheetah's health.

Ashley Franklin from University of Maryland (USA) collected scat from CCF's resident cheetahs to study the relationship between stress and AA amyloidosis.

Ben Spearing from Oregon State University (USA) determined a method for sexing cheetah skeletons and articulated a cheetah skeleton display for CCF's education department.

Caroline Dumartinet, a veterinary student from the Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation de Nantes-Atlantique (France), researched dairy goat nutrition and health. She investigated the milk production, feed nutrition, and blood samples of goats at different stages of lactation.

Eva Maria Greunz (France), a visiting veterinarian, performed coprological analysis of our captive cheetahs in order to assess their parasite levels and determine whether de-worming was required for a particular individual or group.

Hannah Khwaja, a zoology undergraduate from Manchester University (UK), conducted a project evaluating cheetah oestrus cycles. She analysed the benefits and difficulties of identifying oestrus from vaginal cytology versus hormone levels and behaviour in three of CCF's captive cheetahs.

Julien Lehoux, from Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation de Nantes-Atlantique (France), examined CCF's abattoir and helped to implement health and safety practices. He also inspected wild and domestic animal carcasses for signs of disease focusing on zoonotic diseases.

Justine Solesbee from Oregon State University (USA) worked on the biomedical database updating files and blood entries

Katrina Schmitz from St. George's University Grenada (West Indies) worked on Parasitology for some of CCF's animals, which is done annually. She looked at scat from the dogs, horses, and all goats and sheep at CCF

Kelly Kapsar from Carleton College (USA) worked on Waterberg signage and sustainability signs.

Kelsey Fogle from University of Maryland (USA) worked on the kraal mid-year report for 2013.

Kyla Balfour from Cal Poly San Luis Obispo (USA) worked on the data for the annual waterhole count report.

Mallori Manson from Unity College completed designing and building a new goat playground for all our young goat kids that are too young to go out with the herd, which is usually until they are 5 months of age.

Marianne Platel from Van Hall Larenstein University of Applied Science (Netherlands) is looking at the detection of prey animals using hair found in scat samples. Using the hair reference library collection at CCF (which includes hairs from a variety of key prey species, taken from three parts of the animal's body) Marianne has been able to identify prey species using hairs isolated from scat samples. She isolated 10 hairs at random, per sample, and then identified the prey species based on examination of the cuticle pattern under a microscope. The scat samples used within her study were collected during three separate cheetah releases. From there she has done a basic analysis to see if there was a

particular preference for prey species to group of cats and also combining the groups together to see if there was an overall species prey preference. Marianne also tied in other observational data which was recorded by the release team when tracking the cats progress, looking particularly for any discrepancies between species occurring in scat which were not recorded as prey in the preceding few days, and vice versa, which in some cases there was. Ideally the next step is to be able to build in a correction factor which could be used to estimate the number of prey individuals which had been consumed based on scat sample evidence, however this has proved difficult in her case due to the limited sample size.

Mariska Bijsterbosch from Van Hall Larenstein University of Applied Science (Netherlands) has built up a comprehensive library of hair cross section images, meaning that we now have an overall library of the cuticle pattern together with the cross sections – from all different species and different hairs (e.g. head, body, hind leg, etc). Having completed this cross section library, Mariska has been able to use the cross sections to help ID prey species where the cuticle patterns are very similar, which has aided in other projects.

Megan Miville from Unity College in Maine (USA) is working on a new training regime for Isha, one of our scat detection dogs, who was no longer working when Megan began her project. The overall goal is to see if Isha can be trained to be an ID dog for when the scat samples are brought back from the field to double check that they are all cheetah and not other predators. Once this stage is complete her training will progress to see if she can ID individual cheetah scat, which will help when we have a group of cheetahs and need to ID a particular individual

Olivia Spagnuolo from Michigan State University (USA) worked on Waterberg signage.

Paulus Mwatenga from Polytechnic Namibia conducted research on the evaluation of milk production between cross-bred and purebred dairy goats under thorn bush savannah, over a period of six months.

Sara Stoneburg, a veterinary student from Ohio State University (USA), assisted CCF's staff veterinarian. She also worked with Dr. Marker on the preparation of a paper titled "The common causes of cheetah (*Acinonyx jubatus*) death in captivity: 1980-2010."

Sarah Millar from Hong Kong Polytechnic University Royal Veterinary College (PRC) worked on the biomedical database updating files and blood entries

Shalette Dingle, a first year veterinary student from Cornell University (USA), conducted a preliminary study on babesia in captive and wild cheetahs, comparing a clinical and genetic approach.

Thomas Carney from the University of Manchester (UK) completed the annual waterhole report for 2013. Thomas started by bringing together all the data material for this year and systematically analysed it according to a variety of factors including weather data, different species present on different farms, age groups, group sizes, and so on. He then looked at different trends that may appear over time completing a summary of this year and relating it back to previous years.

VI. STRUCTURAL ACTIVITIES

A. Namibian Facility Developments

The Visitors Centre building was destroyed by fire in October. It housed the CCF's gift shop, classrooms, the Cheetah Café and related kitchen, a staff apartment, storage rooms, and the public toilets. The gift shop and café functions were quickly relocated into the Education Centre. A public toilet facility was constructed between the Visitor Centre site and the Creamery within easy access of the parking lot. Designs for the replacement Visitor Centre were approved and quotes were solicited.

1. Existing Structural Projects and New Projects

The meat preparation area for cheetah food (Meat Room) was extensively renovated to improve hygiene and operating conditions.

An exercise yard for CCF's young goats was completed and includes enrichment equipment such as climbing structures as well as interpretive signage. The walkway from the Dancing Goat Creamery to the goats' yard was completed including interpretive signage.

On 16 October 2013 lightning struck the top of our Visitor's Centre causing a fire that quickly consumed the entire building despite efforts to. CCF staff were able to save the majority of the building's contents and no personnel or animals were injured. Plans began immediately for the rebuild and at the end of 2013; final negotiations for the construction were underway.

The perimeter of a projected 9-ha cheetah camp was de-bushed and graded, while encroaching bush within the camp area was thinned.

At the end of December, construction began on three new dog pens for the Livestock Guarding Dog Programme. This expansion will provide extra space for housing our guarding dogs and will allow for programme growth that had previously been restricted due to space.

As early 2013 rains were poor and followed on a poor season it became necessary to establish temporary watering points within the rhino reserve and elsewhere on CCF lands and to transport water to them on a regular basis for wildlife. Towards the end of the year, diets were also supplemented with salt and mineral licks. In December, however, unusually heavy rains fell and filled dams and damaged roads and the runway.

2. Automotives

With the support of CCF's donor John Wilson, CCF purchased another small utility vehicle that is extensively utilised by the CCF Husbandry team. In November the Solvay Okorusu Fluorspar mine donated a water tanker truck which is useful for filling wildlife drinking ponds and for fire fighting support.

Vehicles and tyre repair continue to be an expensive and time-consuming problem at CCF. Old vehicles that cannot be used anymore are in the process of being sold, while all possibilities are being investigated to replace them. On-going maintenance on all working vehicles still takes place. Table 30 lists CCF's vehicles and their condition at the end of 2013

Table 30. CCF Vehicle Fleet and Status

Vehicle	Status
Nissan 4x4 (3307)	Operational
Nissan 4x4 (4349)	Operational
Old Toyota Hilux	Operational
Quantum Old (2131)	Operational
Quantum New (3878)	Operational
Mahindra	Not Operational – bad gearbox
Green Land Rover	Operational
Safari Land Rover	Operational
Safari Toyota Hilux	Operational
Safari GWM	Operational
White Land Cruiser	Operational
Condor	Not Operational – bad gearbox
Cheetah Bus	Operational
Large Tractor	Operational
Small Tractor	Operational
Gator	Operational
Buggy	Operational
Bynadar Tractor	Operational

B. Staffing

Laurie Marker, DPhil – Founder and CEO

Bruce Brewer, PhD - General Manager

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

Patricia Tricorache - Special Projects and Strategic Communications Consultant

Engelhardt Awaseb - Bush Harvest and Chipping Supervisor

Brian Badger - Operations Manager

Jenny Bartlett - Cheetah Keeper/Educator

Johan Britz – Farms Manager

Tanya Britz - CCF Bush Accountant

Stephanie Cunningham – Scat Dog Handler and Cheetah Studbook Keeper Assistant

Juliette Erdsieck - Cheetah Curator

Ezequiel Fabiano, PhD – Quantitative Scientist

Karin Falk – CCF Accountant

Natalie Giesen – Genetics Lab Technician

Anne Heimerdinger - Visitor Services Assistant

Alfred Hendricks – CCF Bush Foreman

Chavoux Luyt- Ecology Ph.D. Student

Luisa Muuhulu – Genetics Lab Masters Student

Priskila Nepela - Eco-tourism Educational Aide

Matti Nghikembua – Chief Ecologist

Gebhardt Nikanor – Education & Tourism Officer

Bessie Simon – Assistant Farm Manager
Max Simon - Mechanic
Heike Stackmann - Volunteer Co-ordinator and Public Relations Officer
Hollis Stewart, DVM – Veterinarian
Ryan Sucaet – Assistant Cheetah Keeper & Social Media Assistant
Rob Thomson – Rhino Ecologist
Tyapa Toivo– Small Livestock Supervisor
Hanlie Visser – Food Services Supervisor
Paul Visser – Assistant Farms Manager
Eli Walker – Research Technician & Social Media Assistant

At the closing of this period, CCF Namibia also employs 27 Namibian farm and domestic workers and 30 Bushblok project workers.

CCF USA Staff

Beth Fellenstein - Constituent Relationship Manager
Liz Georges - Communications Coordinator
Paula Martin – Executive and Development Assistant
Laurie Payne - Fundraising Project Manager and CCF northern California Chapter Leader
Shannon Sharp - Director of Operations and Finance

VII. ORGANISATIONAL ACTIVITIES

A. Fundraising

1. Namibia

CCF hosted its 15th annual fundraising gala at the Windhoek Country Club on 12 July, with 290 guests in attendance. This year's theme, *Share the Waterberg Magic*, celebrated the magnificent landmark that is the jewel of the Greater Waterberg Landscape, and highlighted CCF's long-term efforts to ensure the survival of the wild cheetah. Mr. Valli Moosa, Chairman of the World Wildlife Fund South Africa and globally recognised for his expertise in sustainable development and environment was the Guest Speaker for the evening. The Hon. Alpheus !Naruseb, Minister of Lands and Resettlement, delivered the keynote speech representing H.E. President Hifikepunye Pohamba.

Dr. Laurie Marker presented three 2013 Cheetah Conservation Awards recognising conservationists and farmers who help conserve the cheetah and the Namibian environment. This year's recipients of the 2013 Cheetah Conservationists of the Year were Ambassador Wanda Nesbitt and Mr. Jim Stejskal for being a valuable resource in assisting CCF with the care of one of CCF's most precious Livestock Guarding Dogs, Cappuccino, who was birthed by artificial insemination and holds precious bloodlines. FNB Namibia was honoured as the 2013 Cheetah Conservation Business of the Year for their visionary approach to doing business in the 21st Century by supporting projects that enhance the lives and the environment of the communities of which they are a part of. Andreas Hishiko, a commercial cattle, sheep, and goat farmer, received the 2013 Cheetah Conservation Farmer of the Year Award. Andreas has been a friend of CCF's since 1999, and exemplifies how to successfully prevent livestock losses to predators by giving CCF's Livestock Guarding Dogs the proper care and attention.

Live music and a silent auction that included over 120 items donated by local and international businesses were enjoyed by guests representing the Namibian and international business, conservation, agriculture, and government sectors.

2. International Review

CCF USA

(5) Tours and Events

Dr. Marker's North American tours were extremely active this year. In the spring, she travelled to six states and 15 cities in less than five weeks from 23 April to 21 May before going on to South Africa to speak at the Conservation Genetics conference and then to the UAE for nearly two more weeks. In her fall tour, she travelled to nine states and 15 cities in less than five weeks from September 17 to October 27. These tours enable Dr. Marker to reach out and thank many CCF constituents along the way as well as touch base with CCF USA Board members and Chapters. Below is a summary of the USA spring and fall tours 2013 including fundraisers, Chapter events, lectures, zoo visits, awards, and special events.

CCF's Chief Ecologist, Matti Nghikembua, toured through America in October 2013 attending conferences and giving lectures about CCF and our work. The tour started on 1 October 2013 and ended on 22 October 2013. Matti stops included Washington D.C., Colorado, California, Arizona, Ohio, and Chicago. Matti's tour was a great success and helped raise funds for CCF's work while spreading the word about the plight of the cheetah and the efforts in place to combat it.

Fundraisers Spring 2013

- CCF Trustee Eric Berman and wife Luann hosted a luncheon at the Wild Ginger for CCF high-end donors in Seattle, WA as well as a fundraiser at the Delille Cellars Winery.
- Explorers Club friend and host Robert Whitby and his wife Kathleen hosted a special CCF cocktail party in Greenwich, CT for new supporters in the NY/ CT area.
- In Millbrook, NY, the Trevor Zoo and CCF supporter Paola Bari hosted CCF for the KeepSafe Project with over 97 artists supporting this lecture with their beautiful "KeepSafe" boxes symbolising the project to keep wildlife safe.
- A VIP Dinner in Millbrook, NY to support CCF through the KeepSafe project helped to increase funds to protect the cheetah in the wild. Dr. Marker spent an intimate evening with 22 supporters.
- TEDx Portland's fundraiser at the Weiden + Kennedy Advertising Agency (W+K) helped to raise funds with the support of cheetah ambassadors from Wildlife Safari. This was a private event with 350 W+K employees and families supporting CCF's mission.
- Dr. Suzan Murray hosted a special fundraiser for CCF at her home in Chevy Chase with her neighbourhood group, Martinis for Mummies, and with students from the Chevy Chase Elementary School.
- The Art of Saving the Cheetah was a CCF spring fundraiser set in Arlington, VA at the Arlington Arts Center hosted by the DC Chapter. CCF USA Board members and supporters from the area attended this event in honour of the CCF's Livestock Guarding Programme with guest Anatolian shepherd, Mt. Rainier from Skyview Anatolians of Richmond.

- A CCF African fundraiser in San Diego with over 45 guests was hosted by Chris Liebenberg of Piper & Heath Travel and the Southern California Chapter. The event, overlooking the bay of San Diego, with ambassador cheetah Karoo from the San Diego Zoo featured a local South African chef and South African wines.
- CCF USA Trustee Alan Feldstein and his wife Diane Haithman hosted their annual Studio City cheetah event at their home with the added support of CCF Director Richard Kopcho. A sold out event for CCF this year again with over 75 supporters donating to the mission to save the cheetah. Ambassador cheetah Johari and Anatolian shepherd Yeti from the San Diego Zoo Park were showcased for the first time at this Los Angeles location.
- CCF NO CA Trustee Patricia Klitgaard and CCF friends Dee Norris and Michael Hogan co-hosted a special luncheon at L'Olivier Restaurant in San Francisco on 18 May for 22 high-end donors. Donations raised during this luncheon were kindly matched by.
- The Redstone Golf Club was the perfect setting for the VIP cheetah event with the support of the Houston Zoo attended by 52 supporters from the area. The event featured Dr. Marker and ambassador cheetahs Kito and Kiburi stealing the show. CCF thanks the Houston Zoo and Emanuel J. Friedman Philanthropies for their kind support of this unique event..

Fundraisers Fall 2013

- CCF supporter Nancy Black hosted a special Whale Watching-cheetah fundraising event in Monterey on 22 September. Seventy CCF supporters spent a full day with Dr. Marker.
- As a special thank-you dinner for the Northern California friends of CCF, supporter Gregor Freund and his family hosted Dr. Marker and six high-end donors for a dinner at Cavallo Point in Sausalito, CA on 26 September.
- CCF Cheetah event took place at the home of Dick and Carol Maxwell in Laguna Beach, CA on 28 September with 21 people in attendance. CCF USA Director Richard Kopcho co-hosted the event and sponsored the cheetah and catering expenses.
- Sara Nichols, CCF USA's new Board of Directors member, hosted a luncheon for Dr. Marker in Brentwood, CA to introduce her to new cheetah supporters on 29 September.
- CCF USA Oregon Chapter's annual Big Cat. Big Party gala was held on October 6 at the Oregon Zoo. The event, which included both a live and silent auction and cheetah wall, exceeded its fundraising estimates and collected over US\$65,000. The Oregon Zoo catered the event attended by 150 people, at a ticket price of US\$150- US\$125. Wildlife Safari showcased their cheetah cubs as a highlight of the evening.
- Safari West in Santa Rosa, CA hosted their annual cheetah dinner and "Speed & Elegance" lecture with Dr. Marker and 80 cheetah friends. The event featured a raffle and silent auction.
- The Columbus Zoo hosted over 300 guests at their annual Wine for Wildlife Charity on 12 October 12, benefitting CCF. The CCF USA Board and staff, who were in Columbus for the annual board meeting, had an opportunity to join Dr. Marker in this unique event.
- CCF USA Trustee Vicki Gourley hosted "Meet AH Cheetah," a special CCF fundraiser with Jack Hanna, at the home of Cheryl and Paul Clements in Esperanza, Oklahoma.. The event exceeded its fundraising projections.
- The CCF USA Chicago Chapter headed by CCF USA Trustee Jayne Bazos and Chapter members hosted Dr. Marker at its biannual gala at the Foley & Lardner law offices overlooking Lakeside Drive. CCF USA Director Polly Hix helped to arrange the special venue with food donated by Bin 64. This year's gala included the first CCF Online Silent Auction as a complement to the event, raising over US\$42,000, which contributed to a total income in excess of US\$67,500. The

Columbus Zoo ambassador cheetah was on hand for a photo session and lecture with Dr. Marker. VIP tickets US\$200; US\$75 regular ticket.

- CCF supporter Natasha Zapata and her husband Enrique hosted a dinner in Staten Island, New York to introduce CCF to new supporters from the area.
- A CCF fundraiser in Winchester, VA was hosted at the home of CCF supporter Suzanne Conrad on October 23. This was an opportunity for Dr. Marker to meet CCF donors and supporters from the VA area.
- The 12th Annual CCF DC Chapter Gala was held on 24 October at the law offices of Foley & Lardner overlooking the Potomac River in Georgetown. The DC Chapter hosted the event with the support of CCF USA Trustee Emanuel Friedman and event co-chairs Melanie Brooks-Weiss, Christy Bidstrup, Ron Marks, Nicole Petrosky and Kali Hopson, who kindly catered the VIP reception. The gala dinner was donated by Clyde's Restaurant. The Columbus Zoo showcased Moya and the cheetah cubs. The event included a silent auction items, a cheetah wall, and raffles.
- Emanuel Friedman Philanthropies co-hosted a special fundraising event with the Columbus Zoo at the home of Phil and Hillary Facchina in Great Falls, Virginia. Dr. Marker gave a lecture under a tent to 150 guests. Daughter Nicole Facchina invited all her friends and their parents to see first-hand a live cheetah and cheetah cubs.
- The Explorers Club invited Dr. Marker to showcase CCF and the cheetah during the Lowell Thomas Awards dinner and events held on 26-27 October in Washington, DC. Dr. Marker, a 2010 Lowell Thomas awardee, shared CCF's work at a VIP reception held at the Willard Hotel's Garfield room, where 180 guests enjoyed a special photo opportunity with the Columbus Zoo's cheetah ambassador. CCF was highlighted during the silent auction and offered a special stay at the Babson House for 2014. The weekend events also included a behind-the-scenes tour of the National Zoo's cheetah exhibit led by Dr. Marker. These were unique opportunities to introduce CCF to many potential new supporters.

Lectures and Conferences Spring 2013

- Dr. Marker had the opportunity of addressing a crowd of 1000 guests at the TEDx Portland talk on 27 April which was the highlight of her spring tour 2013. Her lecture titled, "What if the cheetah no longer existed in the wild," was a huge success and supported by Wildlife Safari. Dr. Marker spread the mission of CCF to this live broadcast and introduced CCF to many new supporters and donors across the USA.
- Vashon Island's Harbor School was the location of a special lecture given to 60 middle school students. Dr. Marker's talk on "Race to the Future to Save the Wild Cheetah" was hosted by Dr. Martha Johnson and enriched the learners on conservation and the cheetah's survival in the wild.
- KeepSafe Project lecture at the Trevor Zoo in Millbrook, NY was titled "Saving the Wild Cheetah from Extinction." Dr. Marker addressed over 150 participants with a special silent auction fundraiser for CCF.
- The Bowers Museum in Santa Ana, CA hosted Dr. Marker for a lecture on saving the cheetah from extinction. She met 50 new members from the Bowers Museum and engaged new supporters for CCF.
- The Laguna Beach Rotary Club was highlighted with a luncheon talk by Dr. Marker titled, "A Race to the Future to Save the Wild Cheetah." Dr. Marker conveyed warm greetings from CCF's home

Rotary Club in Otjiwarongo and invited the guests to join her at CCF and travel to Namibia in the near future.

- The Seymour Marine Center in Santa Cruz, CA was the special location on 16 May for Dr. Marker's lecture on saving the cheetah in the wild to over 70 guests with the added support of Frans Lanting and Chris Eckstrom, noted photographer and cinematographer. The Taylor Ranch in Clovis, CA kindly showcased their Kangals Savoie and Turk benefiting the Livestock Guarding Dog programme. The tickets sold for US\$25 and raised US\$2,925 in donations.
- The Redstone Golf Club hosted an informal lecture with Dr. Marker and the Houston Zoo to 52 guests with the added support of cheetah ambassadors Kito and Kiburi at their first off-site event.

Lecture & Conferences Fall 2013

- Ohio State University hosted Dr. Marker for a special lecture to the Veterinary School of Medicine with the Columbus Zoo cheetah cubs and Moya.
- Dr. Marker gave an evening dinner talk for the San Diego chapter of the Explorers Club titled "Saving the Endangered Cheetah" to over 70 guests.
- Matti gave a presentation about CCF and our work to the community of Salida in Colorado.
- Matti attended the 12th annual Wildlife Conservation Network event in Palo Alto on 12 October 2013.
- Matti gave a presentation about CCF and our work to the American Association of Zoo Keepers (AAZK) at the San Diego Zoo.
- Matti gave a presentation to the students at AZ Bioscience High School in Arizona about cheetah conservation and its relation to food production systems.
- Matti gave a presentation titled "Cheetahs of Namibia" at the Fine Mark Bank to Spirit of the Senses members.
- Matti gave a presentation about CCF and our work to the staff at the Arizona Desert Museum.
- Matti gave a presentation about CCF and our work to the zoo staff and CCF friends at the Cincinnati Zoo.

Other USA Events 2013

- Dr. Marker had the unique opportunity to participate in Fast Company's Innovation Uncensored NYC 2013. She was hosted by CCF benefactor and friend Christine Osekoski, Publisher of Fast Company magazine. This was an exciting introduction to meet up with the "World's 50 Most Innovative Companies" and expand CCF's contacts.
- Dr. Marker was chosen with a special grant supported by the Laura and John Arnold Foundation from the Giving Library to shoot a video for CCF. The Giving Library offers philanthropists an innovative way to enhance their charitable giving to non-profit organizations. Dr. Marker's video will help CCF by increasing donor access through this compelling medium and increase CCF's visibility. This video interview will introduce CCF to many new constituents who will access the Giving Library's online archive.
- The International Conservation Caucus Foundation (ICCF) honoured Dr. Marker with the prestigious "Good Steward" Award at ICCF's 2013 U.S. Congressional International Conservation Gala on 18 September at the Andrew Mellon Auditorium in Washington, DC. The Award recognises outstanding individual leadership in conservation.

- Eastern Oregon University (EOU) in La Grande, Oregon bestowed on Dr. Marker the Distinguished Alumni Award given during EOU's Homecoming Weekend in October 2013. The Award recognised Dr. Marker's her efforts in cheetah research and her achievements as a world-renowned expert in cheetah conservation.
- The CCF USA Board of Directors, Trustees, and staff were hosted by the Columbus Zoo for a special dinner showcasing the zoo's cheetahs Moya and cubs, followed by a tour of the new African exhibit set to open in the spring of 2014. The CCF representatives were in Columbus for CCF USA's Annual Board Meeting hosted by the Columbus Zoo through the support of the Zoo's Animal Programmes Director and CCF USA Trustee, Suzi Rapp.

(6) Chapter events

The CCF SO CA (Southern California) Chapter hosted the following events outside of the tour calendar to help maximise CCF's visibility for the endangered cheetah.

- In celebration of Earth Day, the SO CA Chapter created awareness at EarthFair 2013 in San Diego on 21 April. Over 1,546 participants were part of the festivities with major exhibitors and a CCF booth was set up for the third straight year to educate hundreds of people about CCF.
- The SO CA Chapter was able to secure a booth at the Moorpark Spring Spectacular to inspire and educate guests. Brianne Miller hosted the booth.

The Chicago, Portland, and Phoenix Run for the Cheetah events have been cancelled for the time being because the time, resources, and work involved were not worth the small return. The chapters organising the events are looking for alternatives for fundraising events.

Canada: Cheetah Conservation Fund Canada (CCFC)

CCFC held its Annual General Meeting on 29 May 2013 to record updating on all mandatory filing with Canadian authorities and establishment of new Board, including Carolyn Farquhar of Ottawa, Ontario as Chair and Kim Atkinson of London, Ontario as Vice-Chair.

CCFC's new website, www.cheetahconservationfund.ca, which links to the website of Cheetah Conservation Fund, was designed and launched during this period.

On 11 June, CCF Canada had a call-in conference board meeting with Dr. Laurie Marker and the following board members: Chair, Carolyn Farquhar, Ottawa; Vice Chair, Kim Atkinson, London; Treasurer, Anne-Marie Gagnon, Namibia; Secretary, Christine Broughton, Ottawa; Director, Marie-Claude Erian, Chelsea; Director, Evelyn Anderson, Vancouver; Director, Alejandro Paredes Borjas, Toronto; and Shannon Sharp, Director of Finance & Operation, Cheetah Conservation Fund, Alexandria, VA.

Dr. Marker visited Toronto, Canada on 15-16 October. She was welcomed by many of the members of the newly formed eight-person Board of Cheetah Conservation Fund Canada. On the first day of her visit, she was at the Toronto Zoo for meetings with Conservation staff, a behind-the-scenes meeting with the cheetahs (and keepers) at the Zoo, and a public lecture, "A Race Against Extinction," to more than 100 people from the greater Toronto area. At the Zoo, the Memorandum of Agreement, setting out Cheetah Conservation Fund Canada's commitment to CCF Namibia for 2013-15, was officially signed by Dr. Marker and Carolyn Farquhar, Canada's Chair.

On the 16th, Laurie met with one of Canada's major energy law firms to introduce CCF and Bushblok. She was a guest on the nationally broadcast Canadian Broadcasting Corp's "The Current," for an in-depth feature interview. An evening public lecture, "A Life Dedicated to Saving the Cheetah," was held in downtown Toronto, along with a silent auction (which included donated works of art from CCF friends in the US) and sponsorship from three tour operators, focused on Southern Africa.

UK: CCF UK

Dr. Marker visited the United Kingdom in February for fundraisers, meetings and workshops for CCF.

- On 27 February, CCF Board of Director Alison Ravano and her husband Emanuel hosted Dr. Marker and Dr. Bruce Brewer at their home in London with special evening of cocktails for CCF UK friends and the Namibian Ambassador to the UK, H.E. George Liswaniso.
- On 28 February, A CCF Workshop was hosted by Maggie DePree, Co-founder of Imaginals, at the Imaginals office in London with 14 participants involved in re-energising the UK CCF base and brainstorming ideas on creating a CCF UK community in the UK.
- On 28 May, friends and supporters of CCF in the UK led by Maggie DePree and Sara Vaughan held a meeting to discuss potential marketing strategies to enhance CCF's presence in that country. CCF USA's Communications Coordinator, Liz Georges participated via phone.
- After the tragic fire at CCF's Visitors' Centre in mid-October, the UK committee proposed a fundraiser to help CCF rebuild. CCF UK Patrons, Jonathan and Angie Scott, kindly offered to do a lecture in February 2014 when they would be travelling to London. The UK team quickly mobilised to secure a location (The Royal Institution of Great Britain) and to find sponsors for and promote the event.

Netherlands: Stichting SPOTS (*SPOTS Foundation*)

SPOTS continues to raise funds via cheetah and dog sponsorships, as well as through Dutch zoos, in particular the Safaripark Beekse Bergen en Dierenrijk. The friends of the zoo NGO, Stichting Vrienden Safaripark Beekse Bergen en Dierenrijk, has been loyal supporter of CCF. Through SPOTS they donated 4000 € to CCF at the end of December 2013.

France: AMIFELINS

AMIFELINS' new website has grown its visitors from 7,000 in early January to over 82,000 by the end December 2013.

The AMIFELINS Team, though still small, is quite involved and devoted to save the cheetahs from extinction and most active members work daily for the cheetah. French translations of CCF documents and videos, especially for big events like International Day of the Cheetah, also help to spread the knowledge of cheetah and the serious threats of extinction of this vulnerable animal species. As a result, AMIFELINS has seen a 25 % increase in the number of active supporters in 2013.

AMIFELINS is now able to receive monthly payments by bank transfer.

On 22 June 2013 AGM re-elected its Board members for two years: C. Ebbs-Périn as Chair, Julie Wornan as Treasurer, Claude-Isabelle Dunand as Secretary in charge of Public Relations, and Martine Coret as a member.

AMIFELINS continues to develop contacts and meetings with zoos and animal parks to establish new connections that might benefit CCF's work. In December, AMIFELINS began preparations for Dr. Laurie Marker's visit to France in February 2014 in very close cooperation with Pascal Fournié, Founder and Chair of two associations involved in the protection of wildlife and big cats: "Afrique-Horizons" and "Fous de Nature" (Crazy about Nature).

Germany: Aktionsgemeinschaft Artenschutz (AGA) e.V. (*Action Campaign for Endangered Species*)

On the 4 May, the "10th Namibia Day" of the German-Namibia Society took place in Heidelberg, Germany. AGA had an information booth to inform the participants about cheetah conservation and CCF. In addition, AGA had eight other information booths during the year and presented all projects it supports, including CCF. Information booths included the "International Nature Photography Days" in Fürstfeldbruck, the village fair of Korntal-Münchingen, where AGA is based, and the "NaturVision Film Festival 2013" in Ludwigsburg.

To raise awareness about issues facing the cheetah, AGA had a Facebook campaign for International Cheetah Day 2013.

In 2011, a group of hobby photographers chose to support CCF through AGA by donating proceeds from their book "Afrikas Süden" (The South of Africa). The book is published by TiPP4, which this year donated over 750 €.

Italy

Due to a shortage in funding and staff, the Associazione Ambiente, Storia e Natura (ASN) is no longer CCF's fundraising partner in Italy. However, they have expressed their desire to continue supporting CCF through CCF's Italian liaison, Elisabetta (Betty) von Henning, who was very active this year organising events to support the work of CCF.

On 8 March, a conference/fundraiser was held in Mestre, Venice on 8 March, with MEP Andrea Zanoni, who spoke about the European Parliament's laws about animals and anti-poaching, CITES, and his involvement in Italian and European actions. Mr. Gianni Bauce, an Africa specialist who met Dr. Marker in Strasbourg at the EP lecture last year, spoke about his support of CCF and against anti-poaching. Elisabetta spoke about the volunteer experience at CCF and about our work on behalf of the wild cheetah. The audience of approximately 60-70 responded very positively, posed many questions and showed interested in CCF. Additionally, the event offered an excellent opportunity to connect with many active associations of wildlife in North-Eastern Italy.

On 18 August, a conference was organised in Piedmont (San Giovanni Sanctuary) with an attendance of 60 people. A special CCF video was shown during the event, while CCF t-shirts and memorabilia were sold to the public.

On October 13, a conference was held at the Parco Le Cornelle, during which writer Mathilde Bonetti presented her book for teenagers, which features a story taking place at CCF and includes numerous

photos of the Visitors Centre. Attendance to this event was scarce due to bad and cold weather. Consequently, CCF's volunteers and zoo management decided to hold another event in 2014 at the same Park.

MEP Zanoni, who is very active in ecology and animal welfare and conservation, invited Ms. Von Henning on 18 October to speak to various animal and ecological associations of the North East regions about CCF. Dr. Cesare Avesani Zaborra, Director of Parco Natura Viva (Verona), was present and interested in CCF. Following the conference, a small fundraiser was held with many new followers and supporters of CCF in Italy.

Elisabetta von Henning also helped to organise a special trip to Namibia by members of the European Parliament's Intergroup on *the* Welfare and Conservation of Animals. The delegation, consisting of eight members led by MP Dan Jørgensen (Denmark), was hosted by CCF on 25-29 October. In addition to visiting the CCF Centre and Bushblok plant, activities organised by CCF for the MPs included meetings with high-level Namibian government officials and the Chair of the Waterberg Conservancy.

Japan: Cheetah Conservation Fund Japan (CCFJ)

Although not registered to receive donations on behalf of CCF, CCFJ continues to support our efforts of spreading awareness about the cheetah via their web site, www.ccfjapan.org.

B. PR, Marketing, and Media

1. Social Media

Social media is increasingly becoming the filter through which the public accesses news and information. Social media has become so influential on what people consider important that most media outlets now analyse the social media impact a story has had in assessing its impact. CCF now maintains social media presence on Facebook, Twitter, YouTube and Google+. CCF also maintains two blogs – CheetahNews on its website, and Dr. Laurie Marker's Huffington Post blog.

Huffington Post Blog

On 2 May 2012, Dr. Laurie Marker published her first post as a blogger on The Huffington Post. Huffington Post is now considered one of the more influential Internet-based news sources, and content posted to Huffington Post often exposes us to new audiences. Unlike the CheetahNews blog, which is about CCF's programme news and goings on, the Huffington Post blog is intended to be a voice for Dr. Marker herself, and functions much in the same way as an op-ed page. Successful Huffington Post pieces should be timely with events of the day, and have an appeal to general audiences who are not familiar with CCF.

In 2013, Dr. Laurie Marker posted 10 Huffington Post blogs. The subject matter has ranged from responding to cheetahs in Superbowl advertising, to commenting on a YouTube video that had received publicity on "Good Morning America" because it depicted a cheetah living as a pet in a home with toddlers, to talking about global warming and soil degradation. Particular pushes were organised around the CITES Conference of the Parties in March, and a simultaneous launch of the "State of the Cheetah" essay both on our Huffington Post blog and via You Tube. Performance for the blogs posted during this period is shown on *Table 31*.

Table 31. Huffington Post Blog Performance 2013

Post Title	Facebook Likes	Facebook Shares	Google +1's	Tweets	Email Share	Comments
A Superbowl Win for Cheetahs	135	27	0	12	0	0
State of the Cheetah 2013	409	97	2	18	4	0
Ending the Illegal Pet Trade in Cheetahs	248	35	0	55	0	0
The Problem with a "Cheetah House"	585	162	4	23	1	5
Getting Too Close	314	51	1	32	2	0
We're All in This Together	511	84	2	21	0	0
The Importance of Labels	634	81	1	23	1	0
A Crushing Tale	141	57	0	27	0	1
The State of the Cheetah: December 4, 2013	59	29	0	19	0	0
Old Friends and New Friends	368	34	1	14	0	0

2. Cheetah.org Website

An organisation's website is its calling card, and in many ways the centrepiece of its marketing efforts. Increasingly, the first thing a person does when it hears about an organisation or company is to find a link to its website and review it to find out what it's all about. It is critical that CCF's website, cheetah.org, continue to offer visitors an experience that not only allows them to find information they might be seeking, but also receive the core messages that CCF wants to deliver about saving the cheetah.

During this period, CCF has received a grant that will allow it to do a complete redesign of its website, complete with a new webhosting company and greater functionality provided by the use of a WordPress based design platform. We are currently working with Openbox 9, a web design company that was selected via a competitive bid process. Launch is expected in the first quarter of 2014.

CCF staff monitors the general emails provided on the site, and inquiries through the website are handled in a team fashion, utilising relevant staff to address inquiries. Inquiries are usually handled within 24 hours.

3. Outreach Efforts

CCF is currently undertaking a number of outreach efforts aimed at increasing our audience and potentially even instigating new revenue streams.

a) International Cheetah Day

To celebrate the third annual International Cheetah Day on 4 December, CCF made a coordinated publicity push and online campaign that included a special Huffington Post blog, press releases, a PSA from television personality Jeff Corwin, and a special emphasis on Facebook and Twitter in the form of a "Virtual Cheetah Day Party," a special hashtag (#SavetheCheetah) and graphics.

CCF also coordinated a special outreach to zoos and aquariums, repackaging some of its educational aides and creating special posters designed by Moon Ink that zoo partners could use to celebrate International Cheetah Day with their visitors. Materials were distributed directly via CCF’s existing relationships with zoo partners, and through the American Zoo and Aquarium Association (AZA). AZA’s education committee took special interest in this project and worked with CCF staff to publicise the effort to AZA members. Several zoos participated actively in International Cheetah Day, many organising their own events and materials and garnering media coverage for the day.

CCF Trustee Jeff Corwin produced a special International Cheetah Day PSA that received over a thousand views on YouTube within 24 hours. Viget Labs, a technology and design firm that has been working on an ongoing basis with CCF, produced avatars and cover images themed for International Cheetah Day and CCF made them available for download. Dozens of people posted on Facebook, used the hashtags on Twitter, and used the graphics to spread the work on International Cheetah Day. CCF’s social media saw an increase in audience – over 250 new Facebook likes in a single day, and thousands of views of posts and tweets.

b) Corporate Outreach and Partnerships

CCF has always undertaken relationships with corporations where there is mutual interest and mutual benefit, both from a monetary standpoint and a marketing standpoint.

In May 2013, CCF concluded a licensing arrangement with Phoenix, Arizona startup DNA on a Shirt (DOAS). CCF and the plight of the cheetah will be featured as the premier design in its big cat conservation series, which uses graphic renderings of genetic signatures as a design element in both shirts and wall art. CCF will get a significant portion of product sales, and will be prominently featured in advertising, PR and marketing for the products.

CCF is looking for more corporate partners and sponsorships for 2014.

4. Media

This period has been very active. CCF issued 33 press releases in 2013. This is just under double the number of press releases that were issued in 2012. Local releases were not posted to the website. Only releases announcing events of interest to all of our audience were included on the website (Table 34).

Table 32. Press Releases Issued between January and December 2013

Date	Title	Distribution
15-Jan-13	Journal of Zoo and Wildlife Medicine Publishes Study by Cheetah Conservation Fund (CCF) on Parasitology of Cheetahs	Science, Conservation & Zoo segments
18-Jan-13	Cheetah Conservation Fund (CCF) Publishes the 2011 International Cheetah Studbook	Science, Conservation & Zoo segments
16-Feb-13	Cheetah Conservation Fund prepares for its first school visits of the year	Africa only
22-Feb-13	Dr. Laurie Marker, Cheetah Expert and Innovative Conservationist, Visits the United Kingdom 22 February – 1 March	UK only
4-Apr-13	Dr. Laurie Marker, Leading Cheetah Expert and Innovative Conservationist, Tours the United States April 26 – May 15	US only

5-Apr-13	Cheetah Expert Dr. Laurie Marker and Anatolian shepherd at the Arlington Art Center May 7, 2013 for CCF Benefit	DC area media only
10-Apr-13	CHEETAH CONSERVATION FUND ANNOUNCES GRAND OPENING OF CREAMERY: Delicious Fresh Cheeses, Saving Cheetahs, Protecting Livestock	
12-Apr-13	Cheetah Expert Dr. Laurie Marker and Cheetah at “Piper & Heath for Cheetahs” Benefit May 10th at the Bratspis Residence	Southern California only
17-Apr-13	Cheetah Expert Dr. Laurie Marker at the Seymour Marine Center with photographer Frans Lanting, Filmmaker Christine Eckstrom on May 16th at 7pm	Northern California only
25-Apr-13	Cheetah Expert Dr. Laurie Marker and Cheetah at “An Evening for Cheetahs” in Studio City on May 11	Southern California only
1-May-13	Dr. Laurie Marker of Cheetah Conservation Fund (CCF) Appointed to Andrew D. White Professor-at-Large Position at Cornell University	
1-May-13	Cheetah Expert Dr. Laurie Marker at the Redstone Golf Club May 19, 2013 for CCF Benefit	Texas and Oklahoma only
11-Jun-13	The Cheetah Conservation Fund Receives Grant from Finland’s Fund for Local Cooperation to Improve Livelihoods in the Greater Waterberg Landscape	Africa and Europe only
24-Jun-13	Cheetah Conservation Fund Celebrates 15 Years of Its Annual Fundraising Gala Dinner	Africa only
26-Jun-13	The Cheetah Conservation Fund Receives the TripAdvisor Certificate of Excellence	Worldwide
14-Jul-13	Waterberg Magic Surrounded the Cheetah Conservation Fund’s 15th Annual Gala and Awards	Africa Only
16-Jul-13	Cheetah Conservation Fund Hosts Student Expedition as Part of National Geographic’s 125th Anniversary	Worldwide
13-Aug-13	Ecosphere Publishes Study: Modelling tools can effectively assess wild cheetah populations even in the face of uncertainty	Science list
13-Aug-13	Gebhardt Nikanor of Cheetah Conservation Fund Named 2013 Disney Conservation Hero	Worldwide
15-Aug-13	ICCF Honours Dr. Laurie Marker of Cheetah Conservation Fund with the Prestigious “Good Steward” Award	Worldwide
20-Aug-13	Dr. Laurie Marker, Leading Cheetah Expert and Innovative Conservationist, Tours North America Sept. 18 – Oct. 27	North America
30-Aug-13	Municipality of Otjiwarongo Announces Grand Opening of Monthly Otji Farmers’ Market	Namibia only
12-Sep-13	Dancing Goat Creamery Products and Bushblok are Now Certified Wildlife Friendly®	Worldwide
16-Sep-13	Dr. Laurie Marker, Founder of Cheetah Conservation Fund is in Portland, Oregon, Sunday, October 6, 2013 at the Oregon Zoo	Portland Area
24-Sep-13	Meet a Cheetah and Dr. Laurie Marker at the 12th Annual Cheetah Conservation Fundraising Benefit	DC Area
2-Oct-13	Chicago Welcomes Dr. Laurie Marker, Award-Winning Cheetah Expert, with Gala Event	Chicago Area
3-Oct-13	Dr. Laurie Marker Returns for a Special Appearance with “Jungle” Jack Hanna at Meet-ah Cheetah Event October 17th	Oklahoma
16-Oct-13	Statement by Cheetah Conservation Fund Regarding Fire of 16 October 2013	Web Only
18-Oct-13	Cheetah Conservation Fund on the Mend and Moving On after Lighting Fire Destroys Visitors Centre	Africa Only

8-Nov-13	Cheetah Conservation Fund (CCF) Sends Puppies to Tanzania to Save Predators	Worldwide
13-Nov-13	Okorusu Community Trust Fund Donates Bell Water Tanker to Cheetah Conservation Fund	Africa Only
28-Nov-13	Cheetah Conservation Fund Celebrates Third Annual International Cheetah Day, 4 December, 2013	Worldwide
10-Dec-13	Cheetah Conservation Fund on the Mend and Moving On after Lighting Fire Destroys Visitors Centre	Worldwide

CCF's media lists have been reorganised into new sub-segments to allow a more targeted approach to press contacts that will result in better opportunities to reach out to local and niche media outlets.

Media Inquiries and Filming

CCF staff handled 31 media inquiries during this period. (See APPENDIX I: Media outreach).

The film and photography requests that were handled included:

- In February, Voice Japan, a television network in Japan, requested the opportunity to film a programme about expatriate Japanese citizens in Namibia. The crew filmed and footage has been requested from the crew.
- Also in February, Belgian Adventure Travel show "Wild Van Dieren" filmed an episode at CCF. The show aired on May 10.
- A crew filming for Aljazeera English shot at CCF in February for a series called *earthrise*. The show, Meet Dr Laurie Marker AKA 'The Queen of the Cheetahs', aired on 15 October 2013 on the Aljazeera network worldwide.
- Stefan Quinth, a wildlife filmmaker/Producer of Camera Q (Sweden) paid an informal visit to CCF in March at the suggestion of Bo Kjellson, manager at Borås Zoo. Quinth produced a video for the zoo and filmed CCF's resident cheetah Soraya for a short film about a young girl in Sweden who sponsors her.
- In February, a German television production company, ZDF, with a show called "PUR+," made a request to film at CCF. As of the date of this report, discussions were ongoing for potential shooting at CCF in February 2014.
- In February, Paul Brehem, with EarthTouch Films, requested assistance with filming a cheetah running in the NamibRand. CCF was unable to assist with the request because of logistics.
- German photographer Thomas Kettner and World Cup Skier Anna Fenninger returned to CCF in April to shoot photos and film for her campaign to raise money for CCF and awareness of big cat conservation. Anna has since issued a PSA on Vimeo and made appearances on Austrian TV and in other venues, talking about her time in Namibia, her desire to save cheetahs, and displaying footage of CCF.
- Two Norwegian journalists travelling in Namibia visited CCF in April; one is doing a story on human wildlife conflict and was interested in CCF's Livestock Guarding Dog programme; the second was writing about organisations that are attempting to win the race to save species from extinction.
- In April, representatives from BBC One's "Operation Wild" programme want to film veterinary operations at CCF. The discussion is ongoing, pending more information.
- In May, CCF hosted a film crew from New Mission Films. The crew has been commissioned to film a Tourism DVD for Namibia Tourism Board in all 13 regions of Namibia.

- In May, representatives from Silverback Films, filming a documentary for BBCTV on conservation and predators, approached CCF about including the cheetah in the documentary. In June, representatives travelling in Namibia visited CCF to scout it for location.
- In April, a filmmaker working with the Namibian Tourism Board requested the opportunity to film at CCF in September for a promotional piece for NTB. He did not come at all.
- In May, Piper Mackay, a photographer working on a project called “Giving Africa a Voice,” requested permission to do a shoot at CCF.
- In July, independent filmmaker Bob Nixon, who has worked with Dr. Laurie Marker in the past, met with CCF staff to arrange for his partner, Sarah Nixon, to visit CCF and assess the potential for a television series for CCF. Sarah Nixon visited CCF in July.
- Also in June, French TV6 inquired about filming a documentary about wildlife veterinarians, featuring French veterinarian and wolf conservationist, Veronique Luddeni. Dr. Luddeni and CCF have collaborated on the issue of human-wildlife conflict. The crew filmed in August.
- In August, the Namibian Tourism Board brought a team of four bloggers and travel journalists, a film crew and a TV star to CCF as part of its “Go Big Namibia” promotion.
- In September, a Japanese film crew came to scout CCF for filming for a Japanese national television programme.
- Also in November, CCF was contacted by a Canadian reality programme featuring a veterinarian who does animal rescue. They are exploring the idea of filming an episode where the principal visits CCF and learns about CCF’s work with orphaned cheetahs. The project is still under discussion.

Additionally, at the request of WWF Namibia, CCF welcomed Swedish journalist Mr. Peter Hanneberg in April and, on 25 May, a group of high-level journalists, tour operators and others visiting through on a Joint Venture Lodge Exposure Trip. The group was led by Jim Sano, VP Tourism of WWF-US, and included Don George, National Geographic Travel Magazine, and Sem Shikongo, Director, Directorate of Tourism, MET, as well as some corporate executives like Kevin Callaghan, CEO, Mountain Travel Sobek; and Cynthia Dunbar, VP Product Development, REI Adventures. The group toured the CCF facilities and met with CCF’s General Manager, Dr. Bruce Brewer. In August, a free-lance writer ELLE Magazine visited CCF to interview CCF and staff for a potential feature article. The article had not been published as of the date of this report.

CCF and/or Cheetah-related Media Monitoring

CCF staff monitors media only through Google’s free News Alerts service. During this period, Google reported at least 202 articles or electronic media items that directly included CCF or Dr. Laurie Marker.

CCF staff maintains a practice of actively engaging with media that request information, interviews, photos, and other materials. These efforts are documented in Appendix I.

Appendix II documents the results of both the efforts of CCF staff and unsolicited results, many of which are generated by volunteers and partners, or consist of quoting information from the CCF web site. For full listing and details, see APPENDIX II: Overall Media Coverage (source: Google News Alerts).

In January, the Associated Press published an article by reporter Sue Manning entitled “Dogs Cross Species Barrier, Help Cheetahs Survive” that mentioned Dr. Laurie Marker and CCF. Because the

Associated Press has over 1,400 newspapers that subscribe to its newswire services, instances where the Sue Manning article appeared have been broken out into a separate table in APPENDIX II.

In August, Justine Gerardy, a writer for the French news agency AFP (Agence France-Presse), visited CCF and published an article and short news film entitled “Dogs ease Namibia's Cheetah-Farmer Conflicts.” This piece was likewise syndicated in several outlets, including the Toronto Star and others. In October, AFP newswire ran a piece with news of the lightning strike at CCF’s International Research and Education Centre. This also was syndicated by several outlets.

5. Book Collaborations

During this period, CCF staff worked on nine book collaboration requests (review, edits and images). Additionally, Dr. Laurie Marker and photographer Suzi Eszterhas reached agreement on the creation of a book using Ms. Eszterhas’ photos and Dr. Marker’s words. The book is expected to be published in April 2014.

II. APPENDIX I: Media outreach

Publication	Organization	Status	Media type	Status
Wild Travel	Wild Travel Magazine	info reviewed and sent	Magazine	Published
France 2	TV show about Olivier Houalet	Forwarded to Patricia for info	TV (France)	Scheduled
Silverback Films	Silverback Films	Inquiry re: Sahara cheetahs; PT forwarded them to Algerian researchers with more info	Production Co. UK	Complete
Ahora Caigo	Gestmusic	Question re: Cheetah heart for Spanish quiz show	TV (Spain)	Complete
DER HUND	DER HUND	Doing an article on our LSGD Aleya; making sure photo permissions are secure	Magazine (Germany)	Published
Noah's Ark	Noah's Ark	Betty on Italian TV to talk about the cheetah and CCF	TV (Italy)	Broadcast
AFP	AFP	Doing an article on cheetah conservation in South Africa, looking for questions from Laurie; Responses drafted and sent to LM for approval. Published	Wire service (French)	Published
Yale e360		Writing an article about bush encroachment in Africa; linked via email to Bruce and Laurie for more info	web magazine	Published
Freelancers		Travelling journos want to visit CCF to talk about LSGD. Visited CCF; Waiting publication.	Norwegian magazine	Published
Travel News Namibia	Venture Publications	Wanted photos from our creamery release in higher resolution	Magazine	Published
Durham Sun-Herald	Durham Sun-Herald	Wanted to confirm the participation by local resident Elizabeth Cooper in a volunteer trip to Namibia; interviewed Liz Georges	Durham, NC newspaper	Published
G2 Gallery Podcast	G2 Gallery	wants a 20 minute podcast interview for gallery website since they gave \$\$ to us.	gallery website	Published
Africa Inside	Africa Inside	Blogger with connections to Africa Geographic wants to highlight African conservation organization	blog	Published
	WWF Namibia request	WWF sent Swedish Journalist to CCF as part of tour of Africa	Swedish journalist	Completed
Antenna 3	Ahora Caigo	Answer for quiz show, fact checking	TV show	Complete
CLOSER Magazine	CLOSER Magazine	German magazine doing article on Cheetahs being kept by a family in a home; answers being reviewed to send	Magazine	Complete
Republikein Namibia	Republikein	Namibian newspaper wants our comment on recent developments with India and cheetah reintroduction	Namibian Newspaper	Complete
Explorers Club Fellow		Came on a familiarization trip led by Joint Venture Lodge Exposure trip	freelance	Unknown
National Geographic Travel Magazine	National Geographic	Came on a familiarization trip led by Joint Venture Lodge Exposure trip	Travel Mag	Unknown
BBC TV	Inside the Animal Mind	Wanted to talk to someone about how cheetahs learn to hunt for programme.	BBC Channel 2	Completed
Africa Geographic	Africa Geographic	Publication will be doing a story on wildlife trafficking and will want cheetah info from us	Magazine	In Progress
Namibian Observer	Namibian Observer	Wants to interview Bruce about Finnish grant	newspaper	Published
Travel News Namibia	Travel News Namibia	Wants press release and photo from Namibian Gala	website to magazine	Published
Phoenix Business Journal	Phoenix Business Journal	Interview with LG about DNA on a Shirt	Web and print	Published
Elle Magazine (French)	French Elle	Visiting Namibia, wants to interview LM (week of 8/19)	French Magazine	In Progress

edition)				
ESPN.com	ESPN.com radio	Radio interview to comment on a race between NFL players and cheetahs for a Nat Geo special; also did blog post on ESPN.com	Radio and blog	Published
Nat Geo Kids	National Geographic	Requested info re: cheetah heart rates for fun fact portion of magazine	Kids Magazine	Published
Condé Nast Traveler	Condé Nast Traveler	Interview with Sally Davidson re: travel experience at CCF	Magazine	Published
Nat Geo Kids	National Geographic	Requested info re: fact checking a cheetah article	US Kid's Magazine	Published
HitRadio Namibia	HitRadio Namibia	Requested interview re: ICCF honour	Local Radio Namibia	Aired
Brilliant Star	Bah'ai	Featuring LM in an environmental feature, wanted a photo	Kids magazine to parishioners	Published
Bare Essentials	Bare Essentials Magazine	Wants a short piece on CCF's experience with the Giving Library	Environmental Magazine	Published
Flamingo Magazine	Air Namibia	Wants to start including regular material on CCF in the magazine -- looking for basic background info	In Flight Magazine	Published first feature, working on 2 nd
Holly MacCormick	Santa Cruz weekly	Student journalist working on a genetics story; instructor looking to publish in Santa Cruz Weekly	Newspaper	In Progress
German Radio Service	NBC German Radio Service	NBC's German Radio service interviewed Anne and Natalie	Radio Windhoek	Broadcast
Cargo Culte Productions	"Faut Pas Rêver"	French TV producer working on a series for France Channel 3	French TV	Sent materials; waiting response
RTE Radio 1	Mooney Goes Wild	Irish radio programme wanted on air interview with Dr. Marker	Irish radio	Broadcast
Virginia Living Magazine	Virginia Living Magazine	Assistant Editor submitted questions on cheetahs for article	Local lifestyle magazine	Published
Radio Namibia	Radio Namibia	Interview with LM for International Cheetah Day	Namibian Radio	Broadcast
Cães & Cia	Cães & Cia	Brazilian dog magazine with questions on our LSGD program	Brazilian magazine	In Progress
Fido Friendly	Fido Friendly	US dog magazine writing on CCF's LGD program	US Dog magazine	
The Current	CBC Radio	Long format interview with LM on Canadian public radio	Canadian Radio	Broadcast

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

Table One: Media Coverage January – December 2013

Origin (Press Release, Partner Org, Unsolicited)	Date	Title	Name of Outlet	Audience	Author	Link
Press contact	01/01/2013	The Extinction of Endangered Wildlife	<i>ORIGIN Magazine</i>	Magazine -- distributed at Whole Foods		http://www.originmagazine.com/online-issues/
Unsolicited	01/05/2013	How I saved Africa's white lions: The London model who rescued a mother and her cubs and her desperate battle to protect them from bloodthirsty trophy hunters	<i>Daily Mail</i>	UK, Web	Nicola Graydon	http://www.dailymail.co.uk/news/article-2257563/How-I-saved-Africas-white-lions-The-London-model-rescued-mother-cubs-desperate-battle-protect-bloodthirsty-trophy-hunters.html?ito=feeds-newsxml
Unsolicited	01/14/2013	Jagluiperds bly probleem	<i>Republikein</i>	Namibia, Web		http://www.republikein.com.na/politiek-en-nasionale/toerisme-en-omgewingsake/jagluiperds-bly-probleem.162146.php
Press Contact	01/01/2013	A Green Solution for Cheetah Conservation	<i>Natural Dog</i>	Magazine - dog enthusiasts	Kim Campbell Thornton	http://www.dogchannel.com/dog-magazines/natural-dog-annual/2013-natural-dog.aspx
Unsolicited	01/15/2013	A Thing or Two About Cheetahs	<i>Earthwatch Unlocked</i>	Web	Jonathan Harrington	http://earthwatchunlocked.wordpress.com/tag/cheetah-conservation-fund/
Press Contact	01/18/2013	Rescuing Cheetahs	<i>Time for Kids</i>	Kids -- distributed in schools nationwide	Suzanne Zimble	http://www.timeforkids.com/news/rescuing-cheetahs/86681
Unsolicited	01/16/2013	Travel: Animal Welfare in Action in Sanctuaries & Shelters Around the Globe	<i>Petside.com</i>	Web		http://www.petside.com/slideshow/travel-animal-welfare-around-globe#609684
Fact check call	02/01/2013	Altruistic Adventures	<i>Robb Report</i>	Magazine -- high net worth		
Unsolicited	02/01/2013	This Dog Thinks She's a Sheep	<i>High Life (British Airways inflight)</i>	Inflight Magazine		
Unsolicited	02/09/2013	Farmers Make Friends With the Predator They Used to Poison	<i>Yahoo News! Take Part</i>	Web		http://news.yahoo.com/farmers-friends-predator-used-poison-162315006.html
Unsolicited	02/12/2013	Dogs cross species barrier, help cheetahs survive	<i>Huffington Post</i>	Syndicated *see footnote	Sue Manning	http://www.huffingtonpost.com/huffwires/20130212/us-pets-cheetah-love/?utm_hp_ref=politics&ir=politics
Unsolicited	02/12/2013	Westminster Kennel Club Dog Show	<i>USA Network</i>	US Cable		http://www.westminsterkennelclub.org/videos/#/Best%20of%20Group/2013/vid:2625649
Press Release	02/19/2013	Cheetah conservation message goes to schools	<i>New Era Newspaper</i>	Namibia		http://www.newera.com.na/articles/50537/Cheetah-conservation-message-goes-to-schools
Press Release	02/19/2013	Cheetah conservation message goes to schools	<i>All Africa.com</i>	Web		http://allafrica.com/stories/201302190881.html
Unsolicited	02/22/2013	Zero to Sixty in Three Seconds	<i>National Geographic Kids/Passport to Roam</i>	Web		http://kidsblogs.nationalgeographic.com/blog/passport-to-roam/
Inquiry from Writer	02/26/2013	Breaking the Cheetah Curse	<i>MIT Sci Write</i>	Web	Zahra Hirji	http://blogs.plos.org/mitsciwrite/2013/02/26/breaking-the-cheetah-curse-part-ii/
Unsolicited	02/26/2013	Zero to Sixty in Three Seconds	<i>Herald de Paris</i>	Web		http://www.heralddeparis.com/zero-to-sixty-in-three-seconds/202179
Unsolicited	02/26/2013	Cheetah Conservation Fund	<i>Infotech Plus</i>	Web		http://www.infotechnoplus.com/blog/cheetah-conservation-fund.html#
Unsolicited	03/21/2013	Dogs befriend cheetahs	<i>Mother Nature Network</i>	Web	Laura Moss,	http://www.mnn.com/earth-matters/animals/stories/dogs-befriend-

		to aid cats' survival			Associate Editor, Mother Nature Network	cheetahs-to-aid-cats-survival
TEDx	03/25/2013	TEDx Portland: Ticket sales begin today, likely to sell out in a hurry	<i>Oregon Live</i>	Oregon/Web	Sara Hottman, Reporter, The Oregonian	http://www.oregonlive.com/portland/index.ssf/2013/03/tedx_portland_ticket_sales_beg.html
Unsolicited	03/29/2013	Will the cheetah growl?	<i>Business Standard</i>	India/ Web	Shishir Prashant	http://www.business-standard.com/article/beyond-business/will-the-cheetah-growl-113032900334_1.html
Unsolicited	04/01/2013	Dogs versus Predators	<i>Servamus</i>	South Africa	Kotie Geldenhuys	http://www.servamus.co.za/index.php/276-dogs
Unsolicited	04/06/2013	York native spends time with cheetahs in Africa	<i>York News Times</i>	Web; Northern UK	Rachel Ruybalid	http://www.yorknewstimes.com/news/york-native-spends-time-with-cheetahs-in-africa/article_f0be7de0-9e74-11e2-bca2-0019bb2963f4.html
Partner	04/09/2013	Rainbow and Aurora	<i>Ammado</i>	Web	n/a	https://www.ammado.com/nonprofit/cheetah/articles/79415
Press inquiry	05/01/2013	Ein Kangal in Namibia	<i>Der Hund</i>	Germany	Kristina Peez	Stories\DerHund\68-71_Namibia_DH_0513_1803.pdf
Unsolicited	04/11/2013	Cheetahs Were in Danger, Until They Met This Dog	<i>Campus Progress</i>	Web	Felicia Kloewer	http://campusprogress.org/articles/cheetahs_were_in_danger_until_they_met_this_dog/
Unsolicited	04/19/2013	Profile #6 Dr. Laurie Marker	<i>Smarter Life, Better Planet</i>	Web		http://smarterlifebetterplanet.com/profile-6-dr-laurie-marker/
Press inquiry	04/19/2013	Jordan junior launches Conservation Quilts	<i>Durham Herald Sun</i>	Durham NC newspaper; web	Laura Oleniacz	http://www.heraldsun.com/news/x609284362/Jordan-junior-launches-Conservation-Quilts
Partner	02/01/2013	Zu schön, um wahr zu sein	<i>Faszination Tier & Natur</i>	Germany; Air Namibia	Annette Hackbarth	PDF on file
Unsolicited	04/30/2013	Save cheetahs	<i>Deccan Herald</i>	India/ Web		http://www.deccanherald.com/content/329519/save-cheetahs.html
Press Release	04/18/2013	Everybody Say "Goat's Cheese"	<i>Namibian Economist</i>	Namibia		PDF on file
Syndicated	04/27/2013	Cheetahs in Race to Survive	<i>Dawn.com</i>	Pakistan/Web	Christophe Beaudufe	http://dawn.com/2013/04/27/cheetahs-in-race-to-survive/
Press inquiry	05/03/2013	Ahora Caigo'	<i>Antenna 3</i>	Spain	Marc Casanovas	
Press inquiry	05/10/2013		<i>Wild van Dieren</i>	Belgian TV		http://vtm.be/wild-van-dieren/welke-snelheid-haalt-de-cheeta
Press Release	06/12/2013	Namibia: Finland Bankrolls Nam Projects	<i>New Era Newspaper</i>	Namibia/Web	Lorraine Kazondovi	http://www.newera.com.na/articles/52377/Finland-bankrolls-Nam-projects
Press Release	06/12/2013	Namibia: Finland Bankrolls Nam Projects	<i>All Africa.com</i>	Africa/Web	Lorraine Kazondovi	http://allafrica.com/stories/201306121420.html
Syndicated	04/24/2013	Cheetahs in Race to Survive	<i>GlobalPost.com</i>	US/Web	Christophe Beaudufe	http://www.globalpost.com/dispatch/news/afp/130424/cheetahs-race-survive
Syndicated	04/27/2013	Cheetahs in Race to Survive	<i>AsiaOne.com</i>	Asia/Web	Christophe Beaudufe	http://www.asiaone.com/News/Latest%2BNews/Science%2BAnd%2BTech/Story/A1Story20130427-418809.html
Syndicated	06/12/2013	Cheetahs in Race to Survive	<i>Sudan Vision.com</i>	Sudan/Web	Christophe Beaudufe	http://news.sudanvisiondaily.com/details.html?rsnpid=222023
Syndicated	04/27/2013	Cheetahs in Race to Survive	<i>StraitsTimes.com</i>	Singapore/Web	Christophe Beaudufe	http://www.straitstimes.com/breaking-news/technology/story/cheetahs-race-survive-they-could-disappear-the-wild-2030-20130427
Syndicated	04/25/2013	Cheetahs in Race to Survive	<i>Zee News.com</i>	India/ Web	Christophe Beaudufe	http://zeenews.india.com/news/economy/cheetahs-in-race-to-survive_844564.html
Syndicated	04/24/2013	Cheetahs in Race to Survive	<i>News24.com</i>	South Africa/Web	Christophe Beaudufe	http://www.news24.com/Green/News/Cheetahs-in-race-to-survive-20130424
Syndicated	05/09/2013	Cheetahs in Race to Survive	<i>DailyNews.lk</i>	Sri Lanka/Web	Christophe Beaudufe	http://www.dailynews.lk/2013/05/09/wld06.asp
Syndicated	04/24/2013	Cheetah could be extinct	<i>GlobalPost.com</i>		Jill Langlois,	http://www.globalpost.com/dispatch/news/science/wildlife-

		by 2030			Erin Conway-Smith	news/130424/cheetah-could-be-extinct-2030
Syndicated	04/24/2013	Cheetahs could disappear by 2030	<i>Times Live.co.za</i>			http://www.timeslive.co.za/scitech/2013/04/24/cheetahs-could-disappear-by-2030?buffer_share=06646&utm_source=buffer&utm_medium=twitter&utm_campaign=Buffer%253A%252B%2540RubenPortasP%252B%252Btwitter
Syndicated	04/24/2013	Cheetahs in Race to Survive	<i>AFP.com</i>		Christophe Beaudufe	http://www.afp.com/en/news/topstories/cheetahs-race-survive#.UX1F4bhsIHU.twitter
Unsolicited	04/25/2013	Wild cheetahs face extinction by 2030: Experts	<i>Domain-b.com</i>			http://www.domain-b.com/environment/20130425_cheetahs.html
Syndicated	04/24/2013	Wild Cheetah May Disappear by 2030	<i>Newser.com</i>		John Johnson	http://www.newser.com/story/166766/wild-cheetah-may-disappear-by-2030.html
Syndicated	04/25/2013	Cheetahs survived ice age but may be extinct by 2030	<i>Irish Examiner.com</i>	Ireland/Web	Christophe Beaudufe	http://www.irishexaminer.com/world/cheetahs-survived-ice-age-but-may-be-extinct-by-2030-229359.html
Syndicated	04/24/2013	Cheetahs in Race to Survive	<i>Modern Ghana.com</i>	Ghana/Web	Christophe Beaudufe	http://www.modernghana.com/news/460106/1/cheetahs-in-race-to-survive.html
Syndicated	06/14/2013	Namibia: Finland Financial Boost for Three Projects	<i>All Africa.com</i>	Africa/Web	Hilma Hashange	http://allafrica.com/stories/201306141063.html
Partner	06/13/2013	Cheetahs and Climate Change	<i>Ammado</i>	Web		https://www.ammado.com/nonprofit/cheetah/articles/84948
Partner	04/15/2013	"Y" is for Yellow-Billed Hornbill	<i>Ammado</i>	Web		https://www.ammado.com/nonprofit/cheetah/articles/79922
Syndicated	04/24/2013	Cheetahs could disappear from the wild by 2030, says experts	<i>Digital Journal.com</i>	Web	Owen Weldon	http://www.digitaljournal.com/article/348757
Syndicated	04/25/2013	Cheetahs at the Verge of Extinction	<i>French Tribune.com</i>	France/Web	Pierrot Durand	http://frenchtribune.com/teueur/1317655-cheetahs-verge-extinction
	04/27/2013	Laurie Marker, PhD & Cheetah	<i>Flickr.com</i>	Web	Matthew Oliphant	http://www.flickr.com/photos/fajalar/8686291251
Syndicated	04/24/2013	Experts warn cheetahs could disappear from the wild by 2030	<i>RawStory.com</i>	Web	Agence France-Presse	http://www.rawstory.com/rs/2013/04/24/experts-warn-cheetahs-could-disappear-from-the-wild-by-2030/
Event	05/27/2013	Dubai Cheetah Owners Can Save the Species, Says Expert	<i>GreenProphet.com</i>	Middle East/Web	Tafline Laylin	http://www.greenprophet.com/2013/05/dubai-cheetah-owners-can-save-the-species/
Event	05/27/2013	Save cheetahs from extinction, UAE owners urged		UAE/Web	Colin Simpson	http://www.thenational.ae/news/uae-news/save-cheetahs-from-extinction-uae-owners-urged
Partner	06/14/2013	Ski-Star im Dschungel-Camp	<i>NewsAT.com</i>	Web		http://www.news.at/a/anna-fenninger-dschungel-camp
Partner	06/20/2013	Anna Fenninger e Cheetah: sciare in Namibia	<i>FantaSki.it</i>	Italy/Web	Matteo Pavesi	http://www.fantaski.it/news/2013/05/08/anna-fenninger-e-cheetah-sciare-in-namibia.asp
Unsolicited		Wildlife Voluntourism in Namibia	<i>womensadventuremagazine.com</i>	Women/Web	Gigi Ragland	http://issuu.com/womensadventuremagazine/docs/summer2013medres/1
Unsolicited	04/07/2013	Cheetah Conservation Fund	<i>RamenKnowledge.com</i>	Web		http://ramenknowledge.com/2013/04/07/cheetah-conservation-fund/
Unsolicited		Cheetah Conservation Fund	<i>Kula.com</i>	Web		https://kula.com/causes/details?cid=147
Unsolicited	04/16/2013	Feline Conservation Federation Approves \$2000 Grant to support the Wild Cat Research and Conservation in Tanzania's Ruaha Landscape	<i>PRWeb.com</i>	Web	Lynn Culver	http://www.prweb.com/releases/feline-conservation/prweb10626574.htm

Unsolicited	04/07/2013	Remembering Chewbaaka	<i>Sotinpc.wordpress.com</i>	Web	cathynpc	http://sotinpc.wordpress.com/2013/04/07/remembering-chewbaaka/
Unsolicited	05/05/2013	"Cheetah Conservation Fund"	<i>AlexPompe.com</i>	Web	Alex Pompe	http://www.alexpompe.com/cheetah-conservation-fund/
Partner	04/30/2013	Spring Break at the Cheetah Conservation Fund, Namibia Africa	<i>Wakefieldschool.org</i>	Web		http://www.wakefieldschool.org/news/detail.aspx?pageaction=ViewSinglePublic&LinkId=2019&ModuleID=67&NEWSPID=2
Unsolicited	06/20/2013	5 Ways to Teach Kids About the Awesomeness of Rescuing Cats	<i>Catster.com</i>	Web	Angie Bailey	http://www.catster.com/lifestyle/5-ways-teach-kids-cat-rescue-volunteering
Trustee	05/08/2013	Infinite Safari Adventures Owner Alan Feldstein Hosts Second Annual "Meetah Cheetah" To Support The Cheetah Conservation Fund	<i>PRWeb.com</i>	Web		http://www.prweb.com/releases/2013/5/prweb10712362.htm
Unsolicited	02/20/2013	Captive cheetahs best friends are dogs	<i>SFGate.com</i>	SF Gate subscribers /Web	Associated Press (photographer: Lenny Igelzi)	http://www.sfgate.com/default/article/Captive-cheetahs-best-friends-are-dogs-4295273.php
Trustee	05/08/2013	Meetah Cheetah	<i>StudioCity.Patch.com</i>	Blog	Alan Feldstein	http://studiocity.patch.com/groups/alan-feldsteins-blog/p/bp--meetah-cheetah
Trustee	06/01/2013	2nd Annual Meetah Cheetah in Studio City A Huge Success!	<i>StudioCity.Patch.com</i>	Blog	Alan Feldstein	http://studiocity.patch.com/groups/alan-feldsteins-blog/p/2nd-annual-meetah-cheetah-in-studio-city-a-huge-success
Trustee	05/08/2013	Infinite Safari Adventures Owner Alan Feldstein Hosts Second Annual "Meetah Cheetah" To Support The Cheetah Conservation Fund	<i>Dog-whispering.com</i>			http://www.dog-whispering.com/26203/infinite-safari-adventures-owner-alan-feldstein-hosts-second-annual-meetah-cheetah-to-support-the-cheetah-conservation-fund/
Trustee	05/07/2013	Meetah Cheetah	<i>Infinite Safari Adventures Blog</i>		Alan Feldstein	http://blog.infinite-safari-adventures.com/meetah-cheetah
Trustee	05/09/2013	Infinite Safari Adventures Owner Alan Feldstein Hosts Second Annual "Meetah Cheetah" To Assistance The Cheetah Conservation Fund	<i>CashExpand.com</i>			http://cashexpand.com/infinite-safari-adventures-owner-alan-feldstein-hosts-second-annual-meetah-cheetah-to-assistance-the-cheetah-conservation-fund.html
Trustee		Infinite Safari Adventures 2nd Annual Meetah Cheetah Event to Support The Cheetah Conservation Fund Is a Sell-Out				http://bordercollie.co.za/infinite-safari-adventures-2nd-annual-meetah-cheetah-event-to-support-the-cheetah-conservation-fund-is-a-sell-out/
Trustee		Infinite Safari Adventures Owner Alan				http://animalvet.cloudhostnow.com/dogs/infinite-safari-adventures-owner-alan/
Unsolicited	05/05/2013	The Cheetah in Kenya	<i>Newswatch NatGeo</i>		Marcy Mendelson	http://newswatch.nationalgeographic.com/2013/05/05/the-cheetah-in-kenya/
Partner	05/18/13	Remerciements du Cheetah Conservation Fund aux donateurs et supporters de la cause des guépards	<i>YouTube - passion guépard's channel</i>	Web		http://www.youtube.com/watch%3Fv%3DOSLnU_1CAyU
Press Release	05/16/2013	Infinite Safari Adventures 2nd Annual "Meetah Cheetah" Event to Support The Cheetah Conservation Fund Is a Sell-Out	<i>Benzinga.com</i>	Web		http://www.benzinga.com/pressreleases/13/05/p3595159/infinite-safari-adventures-2nd-annual-meetah-cheetah-event-to-support-t
Press Release	05/17/2013	Infinite Safari Adventures	<i>WatchListNews.com</i>	Web		http://www.watchlistnews.com/2013/05/17/infinite-safari-adventures-2nd-

		2nd Annual "Meetah Cheetah" Event to Support The Cheetah Conservation Fund Is a Sell-Out				annual-meetah-cheetah-event-to-support-the-cheetah-conservation-fund-is-a-sell-out/
Press Inquiry	06/24/2013	Laurie Marker's Cheetah Conservation Fund	<i>AfricaInside.org</i>	Africa/Web	Lori Robinson	http://africainside.org/2013/06/24/laurie-marker-cheetah-fund/
Press Release	06/20/2013	360,000 Euro for Namibian cheetah conservation	<i>Africa Geographic</i>	Africa/Web		http://blog.africageographic.com/africageographic-blog/news/euro-360000-for-namibian-cheetah-conservation/
Press Release	06/21/2013	Namibia: Fin Funds Help Debushing	<i>All Africa.com</i>	Africa/Web		http://allafrica.com/stories/201306211039.html
Press Inquiry	06/21/2013	Blind, starving cheetahs: the new symbol of climate change?	<i>Guardian.co.uk</i>	Great Britain/Web	Adam Welz	http://www.guardian.co.uk/environment/nature-up/2013/jun/21/blind-starving-cheetahs-climate-change
Trustee	05/01/2013	Cheetah Conservation Fund Event 5-11-13	<i>YouTube -Infinite Safari Adventures' channel</i>			www.youtube.com/watch?v=R0wqaQ9M8U0
Unsolicited	05/28/2013	Zoo Says Goodbye To Basil, Their Female Cheetah	<i>SpaceCoastDaily.com</i>	Florida/Web		http://spacecoastdaily.com/2013/05/zoo-says-goodbye-to-basil-their-female-cheetah/
Unsolicited	05/29/13	Cheetah At Brevard Zoo Euthanized	<i>BrevardTimes.com</i>	Florida/Web		http://news.brevardtimes.com/2013/05/cheetah-at-brevard-zoo-euthanized.html
Event	06/03/2013	Call to let 'captive cheetahs' in UAE go wild	<i>Emirates 24/7 .com</i>	UAE/Web	Majorie van Leijen	http://www.emirates247.com/news/emirates/call-to-let-captive-cheetahs-in-uae-go-wild-2013-06-03-1.508877
Event	06/03/2013	Campaigners call for action to protect exotic pets in UAE homes	<i>7 Days in Dubai.com</i>	UAE/Web	Duncan Hare	http://www.7daysindubai.com/Campaigners-action-protect-exotic-pets-UAE-homes/story-19162778-detail/story.html
Event	06/02/2013	Cheetah Awareness	<i>GulfNews.com</i>	UAE/Web	Mariam M. Al Serkal	http://gulfnews.com/news/gulf/uae/environment/cheetah-awareness-1.1191716
Event	06/02/2013	What If We Lost The Cheetah: Laurie Marker, PHD at TEDxPortland	<i>TEDx on YouTube.com</i>	Web		http://www.youtube.com/watch%3Fv%3DVja1W8gV8dA
Press Release	06/28/2013	Namibia: 15 Years Celebrating Felid Agility	<i>All Africa.com</i>	Africa/Web	WALDO	http://allafrica.com/stories/201306281225.html
Press Release	18-Jul-2013	Namibia: Fire Training Helps Landscape Conservation At Waterberg	<i>The Namibian</i>	Africa		http://allafrica.com/stories/201307180473.html
Press Release	15-Jul-2013	Cheetah conservation gala celebrates Waterberg magic	<i>Travel News Namibia</i>	Travel/Web		http://travelnewsnamibia.com/news/cheetah-conservation-gala-celebrates-waterberg-magic/#.UvkgJlDv8E
Press Release	18-Jul-2013	Namibia: Fire Training Helps Landscape Conservation At Waterberg	<i>The Namibian</i>	Africa		http://allafrica.com/stories/201307180473.html
Press Release	15-Jul-2013	Cheetah conservation gala celebrates Waterberg magic	<i>Travel News Namibia</i>	Travel/Web		http://travelnewsnamibia.com/news/cheetah-conservation-gala-celebrates-waterberg-magic/#.UvkgJlDv8E
Press Release	15-July-2013	Namibia: Cheetah Conservation Fund Hosts National Geographic Students Expedition	<i>AllAfrica.com</i>	Web	WALDO	http://allafrica.com/stories/201307221852.html
Press Release	22-Jul-2013	Namibia: Cheetah Conservation Fund Hosts National Geographic Students Expedition	<i>Namibian Economist</i>	Africa		http://allafrica.com/stories/201307221852.html
Press Request	24-Jul-2013	Cheetah expert on Johnson's chances (zero)	<i>NFL Nation Blog</i>	Sports media	Paul Kuharsky	http://espn.go.com/blog/nflnation/post/_id/78962/cheetah-expert-on-johnsons-chances-zero

Unsolicited	5-Aug-2013	Up close with some big cats	<i>Wanganui Chronicle</i>	NZ	Laurel Stowell	http://www.nzherald.co.nz/wanganui-chronicle/news/article.cfm?c_id=1503426&objectid=11106596
Press Inquiry	13 August 2013	Yemen: Arabia's wildlife supermarket	<i>Al Jazeera</i>	Web	Joe Sheffer and Tarim Kennedy	http://www.aljazeera.com/indepth/inpictures/2013/07/20137221059376558.html
Partner	13-Aug-2013	Cheetah Display at Indy Zoo Benefits Farmers, Cheetahs	<i>The Statehouse File</i>	Indiana		http://thestatehousefile.com/cheetah-display-at-indy-zoo-benefits-farmers-cats-in-africa/12796/
Press Release	15-Aug-2013	Cheetah educator nabs international award	<i>Travel News Namibia</i>	Travel/Web		http://travelnewsnamibia.com/news/cheetah-educator-nabs-international-award/#.UvkfcldV8F
Press Release	23-Aug-2013	Namibia: Cheetah Protectors Awarded for Outstanding Commitment	<i>Namibian Economist</i>	Africa		http://allafrica.com/stories/201308231306.html
Press Inquiry	27-Aug-2013	Dogs hand cheetahs a lifeline in Namibia	<i>Voices of Africa (AFP)</i>	Web		http://voicesofafrica.co.za/dogs-hand-cheetahs-a-lifeline-in-namibia/
Press Inquiry	27-Aug-2013	Dogs Ease Namibia's Cheetah Farmer Conflicts	<i>AFP</i>			
Unsolicited	29 August 2013	Cheetah's 'conserved' by dogs	<i>Earth Times</i>	Web	JW Dowey	http://www.earthtimes.org/conservation/cheetah-conserved-dogs/2430/
Partner	4-Sep-2013	Bearcats race through zoo to save big cats	<i>The News Record</i>	Cincinnati		http://www.newsrecord.org/college_living/bearcats-race-through-zoo-to-save-big-cats/article_e62a65f4-15d1-11e3-8309-0019bb30f31a.html
Unsolicited	5-Sep-2013	6 Tips for a Planning the Perfect Cat-Themed Party for Kids	<i>Catster</i>	Web		http://www.catster.com/lifestyle/6-tips-cat-themed-kids-party-planning
Press Release	17-Sep-2013	Annual Gala for the Cheetah Conservation Fund	<i>Washingtonian</i>	Web		http://www.washingtonian.com/events/2013/09/17/annual-gala-for-the-cheetah-conservation-fund.php
Press Inquiry	19 Sep 2013	GuARDInG DOGS PROGRAMMe ReDuCes LIVestOCK LOsses BY OVeR 80%	<i>Friends of Conservation News Review</i>	News letter		N/A
Press Release	19-Sep-2013	Namibia: CCF Products Wildlife Friendly	<i>The Namibian</i>	Africa		http://allafrica.com/stories/201309191222.html
Press Release	19-Sep-2013	Around Town: 'Meet-ah cheetah'	<i>Journal Record</i>	Oklahoma City, OK		http://journalrecord.com/2013/09/19/around-town-meet-ah-cheetah-opinion/
Press Release	20-Sep-2013	Cheetah Conservation Fund: Products declared wildlife friendly	<i>Victoria Falls 24.com</i>	Web		http://victoriafalls24.com/blog/2013/09/20/cheetah-conservation-fund-products-declared-wildlife-friendly/
Press Release	1 Oct 2013	Cheetah Conservation Fund educational programme Oct., 5th	<i>Salida Citizen</i>	Web		http://salidacitizen.com/2013/10/cheetah-conservation-fund-educational-program-oct-5th/
Press Release	4 Oct 2013	Cheetah Conservation Fund presents educational programme	<i>The Mountain Mail</i>	Web	Brian McCabe	http://www.themountainmail.com/news/education/article_a175d35e-2d09-11e3-a7ac-

		at Mon-Ark Shrine				001a4bcf6878.html
Tour Press	5 Oct 2013	Meeting a Cheetah and His Dog at a Studio City Home	<i>North Hollywood-TolucaLake Patch</i>	Web	Mike Szymanski	http://northhollywood.patch.com/groups/arts-and-entertainment/p/meeting-a-cheetah-and-his-dog-at-a-studio-city-home-northhollywood
Tour Press	5 Oct 2013	Meeting a Cheetah and His Dog at a Studio City Home	<i>Studio City Patch</i>	Web	Mike Szymanski	http://studiocity.patch.com/groups/arts-and-entertainment/p/meeting-a-cheetah-and-his-dog-at-a-studio-city-home
Press Release	17 Oct 2013	Lightning strikes Namibia cheetah centre	<i>AFP Newswire</i>	Syndicated		http://www.google.com/hostednews/afp/article/ALeqM5iyuw4cHQijFE7VtLayXw2HRoUFA?docId=aa1700a7-4ac1-490c-b4ca-03453626785d
Syndicated	17 Oct 2013	Lightning strikes Namibia cheetah centre	<i>Yahoo News</i>	Web		
Press Release	18 Oct 2013	Fire at Cheetah Conservation Fund's Namibia Headquarters Burns Buildings	<i>The Epoch Times</i>	Web w/ print in NY and China	Zachary Steiber	http://www.theepochtimes.com/n3/322317-fire-at-cheetah-conservation-funds-namibia-headquarters-burns-buildings/
Press Release	18 Oct 2013	Lightning Stuns Cheetah Centre	<i>The Namibian</i>	Namibia		
Partner	22 October	In Namibia contro il bracconaggio dei ghepardi	<i>Andrea Zanoni a Parlamento Europeo</i>	Italy Web		http://www.andreazanoni.it/it/news/comunicati-stampa/in-namibia-contro-il-bracconaggio-dei-ghepardi.html
Tour Related	23 October 2013	Modern Marco Polos: 'Golden age' of exploration is now, Explorers Club says	<i>Foxnews.com</i>	Web	Gene Koprowski	http://www.foxnews.com/science/2013/10/23/modern-marco-polos-golden-age-exploration-is-now-researchers-say/
Press Release	12 November 2013	Nam Puppies to Save Tanzanian Livestock	<i>The Namibian</i>	Namibia		
Press Inquiry	13 November 2013	Cheetah Conservation Fund Creates Jobs From Bushes	<i>The Namibian</i>	Namibia		http://allafrica.com/stories/201311130964.html
Press Inquiry	15 November 2013	Vivere con I Ghep	<i>i nostri amici animali</i>	Italy		
Press Release	15 November 2013	Cheetah Fund Sends Kangal Dogs to Tanzania	<i>Namibian Economist</i>	Namibia	WALDO	http://allafrica.com/stories/201311160168.html
Partner	19 November 2013	You're Invited to Celebrate International Cheetah Day: December 4	<i>Inside Busch Gardens</i>	Web		http://www.buschgardenstampa.com/youre-invited-celebrate-international-cheetah-day-december-4
Press Inquiry	20 November 2013	Can you train a cheetah to be your pet? Bonus: What is the least trainable big cat?	<i>Boston University News Service</i>	Web	Kasha Patel	http://bunewsservice.com/can-you-train-a-cheetah-to-be-your-pet/
Press Release	26 November 2013	Guard dogs reduce killing of threatened species	<i>Science Codex</i>	Web		http://www.sciencecodex.com/guard_dogs_reduce_killing_of_threatened_species-123766
Press Release	26 November 2013	Guard Dogs Reduce Killing of Threatened Species	<i>Science Daily</i>	Web		

Tour Press	27 November 2013	Scene and Heard: Cheetah Conservation Fund, Oregon Food Bank	<i>The Oregonian/Oregon Live</i>	Web	Carolyn Patten	http://www.oregonlive.com/living/index.ssf/2013/11/cheetah_conservation_fund_oreg.html
Press Release	4 December 2013	Champions for Cheetahs	<i>The Ecotone Exchange</i>	Web	Maymie Higgins	http://theecotoneexchange.com/2013/12/04/international-cheetah-day/
Press Release	4 December 2013	Houston Zoo lets cheetahs run free at Dynamo practice field	<i>Houston Chronicle</i>	Newspaper	Craig Hlavaty	http://www.chron.com/news/houston-texas/article/Houston-Zoo-lets-cheetahs-run-free-at-Dynamo-5034387.php
Press Release	4 December 2013	International Cheetah Day	<i>Fox 5 San Diego</i>	Television		http://fox5sandiego.com/2013/12/04/international-cheetah-day/#axzz2wVp4vE00
Press Release	4 December 2013	It's only International Cheetah Day once a year. And it's today!	<i>Global Post.com</i>	Web	Emily Lodish	http://www.globalpost.com/dispatch/news/science/wildlife-news/131204/happy-international-cheetah-day
Press Release	4 December 2013	Radio interview	<i>Hit Radio Namibia</i>	Radio		
Press Release	29 December 2013	Guard dogs reduce killing of threatened species	<i>The Almagest</i>	Web		http://www.thealmagest.com/guard-dogs-reduce-killing-threatened-species/8575

* Because the Sue Manning story was syndicated to over 1,400 outlets via the Associated Press newswire, one instance is listed in this table, and the other appearances of the story are listed in Table Two.

Table Two: Instances of publication of Sue Manning's AP Wire story

Date	Publication/Website	Link
Feb 12, 2013	The AP (ORIGINAL)	http://bigstory.ap.org/article/dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	Yahoo! News	http://news.yahoo.com/dogs-cross-species-barrier-help-cheetahs-survive-081923293.html
Feb 12, 2013	The Modesto Bee	http://www.modbee.com/2013/02/12/2574356/dogs-cross-species-barrier-help.html
Feb 12, 2013	Denver Post	http://www.denverpost.com/ci_22571028?source=bb
Feb 12, 2013	MassLive.com	http://www.masslive.com/news/index.ssf/2013/02/dogs_cross_species_barrier_hel.html
Feb 12, 2013	Journal Gazette and Times-Courier	http://jg-tc.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_176148f7-b53c-5b5b-bf6d-3f21fe5d32e1.html
Feb 12, 2013	Helena Independent Record	http://helenair.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_bb47428d-0a9f-570a-bf7d-0aee684d6dae.html
Feb 12, 2013	Connecticut Post	http://www.ctpost.com/news/science/article/Dogs-cross-species-barrier-help-cheetahs-survive-4270468.php
Feb 12, 2013	Billings Gazette	http://billingsgazette.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_1fc1641c-461e-5557-b6b8-db99756150fa.html
Feb 12, 2013	Times Union	http://www.timesunion.com/news/science/article/Dogs-cross-species-barrier-help-cheetahs-survive-4270468.php
Feb 12, 2013	The Gazette	http://thegazette.com/2013/02/12/dogs-cross-species-barrier-help-cheetahs-survive/
Feb 12, 2013	Open Tree of Life (Posted Link)	http://opentreeoflife.org/
Feb 12, 2013	Horn Portal	http://horn.so/dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	The Australia Post	http://theaustraliapost.com/news/dogs-cross-species-barrier-help-cheetahs-survive

Feb 12, 2013	Topix (Posted Link)	http://www.topix.com/city/escondido-ca/2013/02/dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	WBay	http://www.wbay.com/story/21131327/dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	ABC News	http://abcnews.go.com/US/wireStory/dogs-cross-species-barrier-cheetahs-survive-18473025
Feb 12, 2013	Myrtle Beach Online	http://www.myrtlebeachonline.com/2013/02/12/3324159/dogs-cross-species-barrier-help.html
Feb 12, 2013	Greenwich Time	http://www.greenwichtime.com/news/science/article/Dogs-cross-species-barrier-help-cheetahs-survive-4270468.php
Feb 12, 2013	WTOP	http://wtop.com/209/3223398/Dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	The Miami Herald	http://www.miamiherald.com/2013/02/12/3229610/dogs-cross-species-barrier-help.html
Feb 12, 2013	Fresno Bee	http://www.fresnobee.com/2013/02/12/3170470/dogs-cross-species-barrier-help.html
Feb 12, 2013	The Times and Democrat	http://thetandd.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_bf5108e6-9827-5526-9f16-530edd8e5233.html
Feb 12, 2013	Post-Tribune	http://posttrib.suntimes.com/photos/galleries/18180461-417/dogs-cross-species-barrier-help-cheetahs-survive.html
Feb 12, 2013	Press of Atlantic City	http://www.pressofatlanticcity.com/news/ap/nation/dogs-cross-species-barrier-help-cheetahs-survive/article_f185d6b6-680b-5055-a4fa-a3c31e963369.html
Feb 12, 2013	The Palladium Times	http://www.palltimes.com/news/national/article_57f812d8-cc4f-53e2-8099-c6b84918dff9.html
Feb 12, 2013	Gettysburg Times	http://www.gettysburgtimes.com/news/national/article_8810e3b1-f796-5597-a833-a9af17bc2b81.html
Feb 12, 2013	The Times of Northwest Indiana	http://www.nwtimes.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_c1af4f38-d1a3-5aa0-b8e9-4d4f23b0f619.html
Feb 12, 2013	KATV	http://www.katv.com/story/21131327/dogs-cross-species-barrier-help-cheetahs-survive
Feb 12, 2013	i4u.com (Posted Link)	http://www.i4u.com/2013/02/barack-obama/dogs-help-cross-cheetahs-barrier-species-survive
Feb 12, 2013	StumbleUpon (Posted Link)	http://www.stumbleupon.com/content/2Kuh0d/likes
Feb 12, 2013	Herald and News	http://www.heraldandnews.com/news/national/article_6ba4948e-c4d7-5615-b741-6bf95d9569bb.html
Feb 12, 2013	The Seattle Times	http://seattletimes.com/html/nationworld/2020338387_apuspetscheetahlove.html?syndication=rss
Feb 12, 2013	Huffington Post	http://www.huffingtonpost.com/huff-wires/20130212/us-pets-cheetah-love/?utm_hp_ref=politics&ir=politics
Feb 12, 2013	Bellingham Herald	http://www.bellinghamherald.com/2013/02/12/2875959/dogs-cross-species-barrier-help.html#storylink=rss
Feb 12, 2013	Philly Burbs	http://www.phillyburbs.com/news/national/dogs-cross-species-barrier-help-cheetahs-survive/article_2ebb4a59-450a-55a6-ab73-3026e692c180.html
Feb 12, 2013	The Detroit News	http://www.detroitnews.com/article/20130212/SCIENCE/302120377/1478/rs
Feb 12, 2013	KTVU	http://www.ktvu.com/ap/ap/environment/dogs-cross-species-barrier-help-cheetahs-survive/nWMLr/
Feb 12, 2013	WTOV9	http://www.wtov9.com/ap/ap/environment/dogs-cross-species-barrier-help-cheetahs-survive/nWMLr/
Feb 12, 2013	WHIO TV	http://www.whiotv.com/ap/ap/environment/dogs-cross-species-barrier-help-cheetahs-survive/nWMLr/
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Feb 12, 2013	Birmingham Observer	http://www.birminghamobserver.com/2013/02/12/dogs-cross-species-barrier-help-cheetahs-survive/
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Feb 12, 2013	Watertown Daily Times	http://www.wdtimes.com/news/national/article_8521411a-59a1-598b-8f4b-8e3b53e1b1e7.html
Feb 12, 2013	Pantagraph	http://www.pantagraph.com/lifestyles/pets/animals-dogs-cross-species-barrier-help-cheetahs-survive/article_49651ec4-788a-11e2-935f-001a4bcf887a.html?comment_form=true
Feb 12, 2013	Muck Rack (Posted Link)	http://muckrack.com/link/uLFS/dogs-cross-species-barrier-help-cheetahs-survive
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Feb 12, 2013	NBC	http://www.nbcnews.com/id/50779282/ns/us_news-environment/
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Feb 14, 2013	Sun Herald	http://www.sunherald.com/2013/02/14/4469972/dogs-cross-species-barrier-help.html
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Feb 15, 2013	Wag The World (Posted Link)	http://wagtheworld.com/?p=29905
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Feb 15, 2013	Ohio.com	http://www.ohio.com/pets/pets-blog-1.288326/dogs-cross-species-barrier-help-cheetahs-survive-1.373631
Feb 16, 2013	Bradenton Herald	http://www.bradenton.com/2013/02/16/4397469/dogs-cross-species-barrier-help.html
Feb 17, 2013	Dogs Blog Today (Posted Link)	http://www.dogsblogtoday.com/43511/animals-dogs-cross-species-barrier-help-cheetahs-survive-bloomington-pantagraph/