



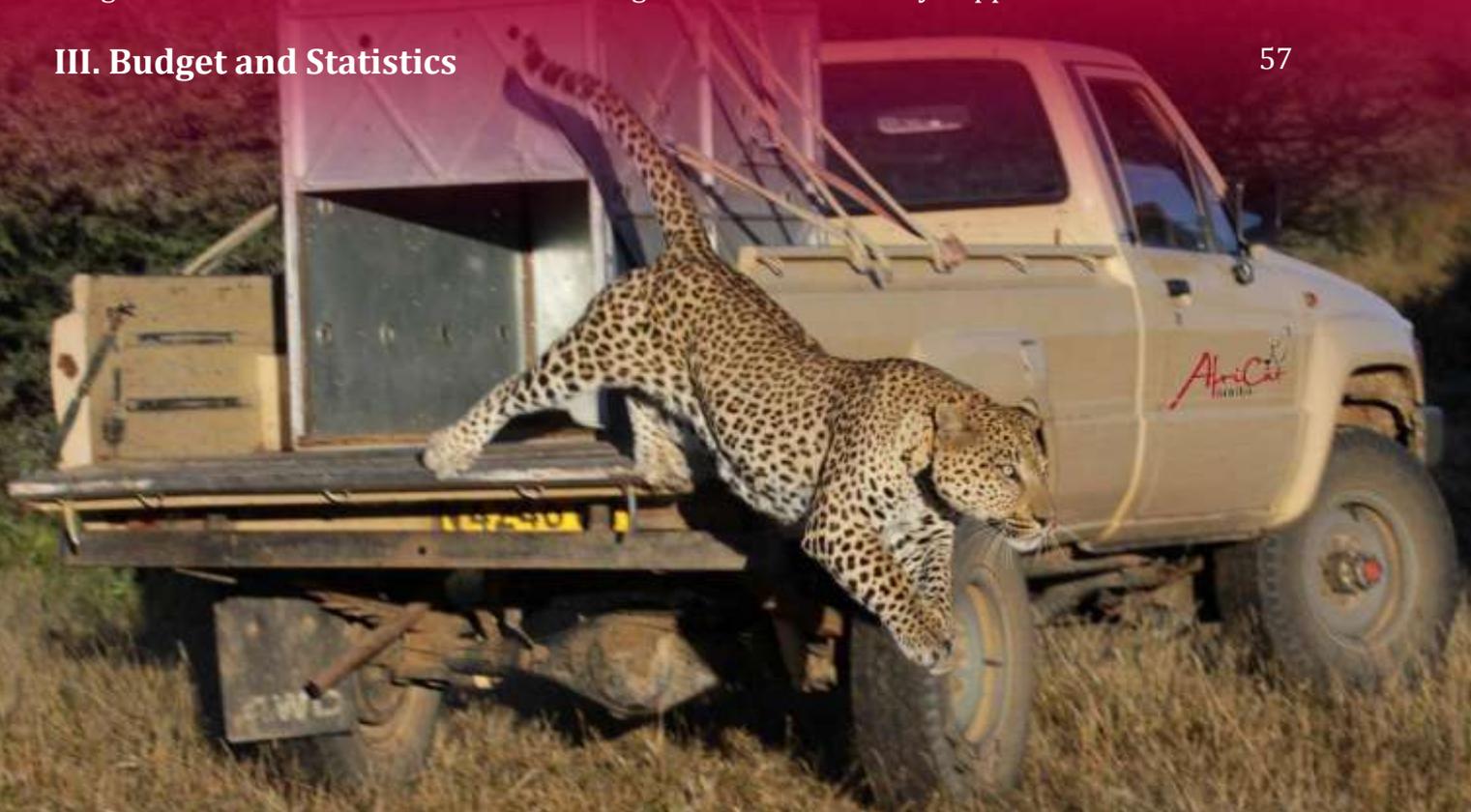
AfriCat Foundation Annual Report

1 March 2012 to 28 February 2014



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I: Introduction

Problem Statement - Why We Do What We Do

Namibia is home to approximately 25% of the world's cheetah population, of which 90% live on farmland. Namibia's other large carnivores, namely leopards, lions, Wild Dogs, brown and spotted hyenas, are not, however, believed to make up such a large percentage of the world's population even though they also all occur in the unique farmland ecosystem. It is the inevitable conflict with humans on commercial and communal farmland that created the necessity for the establishment of the AfriCat Foundation.

Habitat loss is one of the largest threats to the large carnivore populations in Namibia. Over 7,000 commercial livestock and game farms cover approximately 355,000 km² and communal land covers an estimated area of 125,000 km² of Namibia's total 825,418 km². With the majority of leopards and cheetahs existing in these parts of the country, the resulting conflict between these predators and farmers protecting their livelihood is inevitable as the areas of natural habitat where these animals can safely exist have, consequently, been reduced dramatically.

General predator removal is often the "livestock-protection method" utilised by farmers who view most predators as "problem animals" and cheetahs and leopards are trapped, poisoned, or shot on sight. In most cases, an individual animal is responsible for stock losses and not the species in general and this indiscriminate removal leads to the unnecessary elimination of many blameless animals. Some individual cats are more likely to prey on livestock as opposed to their 'normal' prey diet for a number of reasons, such as being weak, injured, or old. With livestock generally defenceless against such predators, they become a much easier and more appealing kill to cats which may not have the ability to prey on a more natural selection as opposed to the species in general. In addition to this, removing an individual which has killed some livestock does nothing but empty its territory, which will subsequently be filled again by at least one other predator, if not more. In short, it is not solving the problem of livestock predation.

The AfriCat Foundation has recognised this conflict as one of the key issues to successful conservation and sustainable development and has courageously taken up the gauntlet in striving to moderate between the two opposing sides.



History - The Formation of AfriCat

The AfriCat story started in 1970, when the Hanssen family settled on the farm Okonjima in central Namibia. Brahman cattle were raised on the land but annual losses of calves to predators, particularly leopards, amounted to between 20 and 30 per year, decimating the herd and resulting in huge financial losses. As with many farmers at that time, the Hanssens took the path of trapping, shooting, and hunting leopards in an attempt to minimise their losses. However, these losses continued at the same rate as before. Other measures were employed and calf-holding pens were built at watering holes where cows could give birth safely. The calves remained in protective custody until they were approximately 4 months old with their mothers coming in at regular intervals to feed them. Using this simple livestock protection method reduced losses to about 3 or 4 per year.

Wayne, the only son of the Hanssen family, recognised the need for a better understanding between humans and carnivores. He began observing the leopards, becoming more familiar with their habits and movements. At the same time, the family started a small bed-and-breakfast business and tourists began to visit Okonjima. Wayne's research revealed where leopards could be found and he started to share his viewing experiences with guests. Hunting ceased as more and more guests came to view the big cats at close quarters and Okonjima became a rapidly-growing tourism enterprise.

The AfriCat Foundation was founded in 1991 on Farm Okonjima and officially registered as a non-profit organisation in 1993. AfriCat was created as a result of information gained through Wayne's research on Okonjima during their cattle farming days, the loss of calves to leopards, finding solutions, and the desire to share this information with fellow farmers.

From this platform, farmers throughout the area turned to AfriCat to handle 'problem' cats, often calling AfriCat to their farms to collect animals which they had trapped to protect their livestock. Upon arrival, AfriCat made an effort to persuade the farmers to release the cats but, as an instinctive hatred towards these animals was so engrained, this was often a futile task. Failing to convince farmers to release, AfriCat relocated older cats to the properties of more tolerant farmers, but in cases which involved orphaned cubs, the only viable option was lifelong care by the AfriCat team at their Care Centre.

AfriCat's wilderness camp, AfriCat North (formerly known as Afri-Leo), was registered as a Namibian-based, non-profit organisation in 1997 and has worked closely with the AfriCat Foundation since its founding. Run by the Hanssen family's eldest daughter, Tammy Hoth-Hanssen, AfriCat North operates in much the same way as AfriCat on Okonjima but instead focuses on lions and spotted hyenas rather than leopards, Wild Dogs, and cheetahs. Due to the ever-increasing demands of carnivore conservation, these two groups were merged under the AfriCat banner, and Afri-Leo's programmes and projects have continued and expanded under the name of AfriCat North. Its headquarters are ideally situated in north-western Namibia, bordering the Etosha National Park, to play a vital role in supporting Environmental Education, Farmer-Predator/Human-Wildlife Conflict Mitigation & Community Support, and Research and Monitoring Programmes in the Kunene Region of Namibia.

Since AfriCat and AfriCat North's inception, more than 1,080 of these predators have been rescued and over 85% of them were released back into the wild. In addition to the rescue, rehabilitation, and release of these cats, AfriCat provides care for those which cannot be returned to the wild due to a variety of factors such as habituation, loss of hunting skills, and injury, as well as educational opportunities aimed at all ages to promote the long-term conservation of these predators.



What we do now

The AfriCat Foundation prides itself on being an evolving conservation organisation which changes its focus appropriately using various effective methods to meet the conservation needs of large carnivores at any particular time. In 2010, realising that the process of rescue and release alone was becoming outdated, AfriCat identified the need for a shift in focus to 'Conservation through Education'. This new direction seeks to change the mind-set of future generations in order to provide a positive understanding and experience of the country's natural heritage and its Big Cats in particular. AfriCat has organised this new orientation into programmes which will be explained and reported on in detail in section II. They are Research, Carnivore Care, Environmental Education, Rehabilitation, the Okonjima Nature Reserve and Rescue and Release, and Human Wildlife Conflict & Community Support. As all of AfriCat's projects are interconnected, these programmes help to increase awareness amongst the local community as well as globally, and serve as an ambassadorship to the conservation of these carnivores.

AfriCat's Mission

The AfriCat Foundation's mission is to make a significant contribution to conservation through education and research. It strives to ensure the long-term survival of Namibia's predators in their natural habitat by working with commercial farmers, local communities, communal conservancies, various other stakeholders, and the youth of Namibia. Through its education efforts and wildlife research projects, AfriCat plays a crucial role in increasing our understanding of, and providing sustainable solutions to, conservation challenges in general and human-wildlife conflict and animal welfare issues in particular.

Who and Where We Are

AFRICAT BOARD

As the AfriCat Foundation's vision expanded over time, and also pivoted towards research and education, its Board of Trustees was also broadened. A larger, more broad-based Board was appointed in order to be better able to represent the various stakeholders of the Foundation, as well as provide varying skill sets and fresh perspectives to the Foundation.

As such, the AfriCat Foundation's Board comprises:

- **Wayne Hanssen:** Founder and Trustee – In addition to being AfriCat's founder, Wayne acts as a Trustee and is involved in the daily running of AfriCat and its 20,000 hectare reserve. Wayne leads the Okonjima team in a tourism venture which offers their clients a high-quality, authentic safari experience, proceeds of which are used for conservation, environmental education, and social responsibility.
- **Tammy Hoth-Hanssen:** Executive Director – Tammy is the public face of the Foundation in Namibia and interacts with the Ministry of Environment and Tourism, as well as with local supporters and donors. She is AfriCat's global representative, attending meetings, presenting public statements, and generally handles its public relations. Tammy is based at AfriCat North, which borders western Etosha National Park. From this location, Tammy heads the Environmental Education, Research, and Human-Wildlife Conflict Mitigation & Community Support Programmes in the Communal Conservancies and wilderness areas of the northwest.
- **Mark Reinecke:** Chairperson – Mark's role as AfriCat's chairperson involves running board meetings and formulating strategic fund-raising decisions to be made by the organisation, as well as considering all legal matters. Mark and his wife, Karen Codling (Foundation secretary), are also part owners of some of AfriCat's rehabilitation lands, known as Ombujongwe.
- **Kathleen Newton:** Treasurer – Kathleen ensures that the Foundation remains focused on the conservation and rehabilitation goals, as well as maintaining strong fiscal controls over generously donated funds. In addition, her experience with, and knowledge of, other trusts and her understanding of Namibia's business community, is a valuable asset.





- **Karen Codling:** Secretary – As AfriCat’s secretary, Karen is responsible for maintaining the Board records of the Foundation. Her professional experience is grounded in working for and with the United Nations Children’s Emergency Fund (UNICEF) in matters of public policy, maternal & child health, and micronutrient deficiencies. She is also part owner of rehabilitation lands with her husband, Mark Reinecke (chairperson).
- **Donna Hanssen:** Trustee – Donna is involved in the daily decision-making and running of AfriCat Head Quarters. She also has brought her considerable skills to bear in the reorganisation of AfriCat, particularly in raising the Foundation's profile and bringing it closer to Okonjima's guests. In addition to increasing awareness among lodge guests, she is responsible for the new image which the Foundation now represents and joins her sister, Tammy Hoth-Hanssen, as the public face of AfriCat internationally.
- **Dr. Mark Jago:** Trustee – Mark currently works for the Namibian Ministry of Environment and Tourism and so is instrumental in assisting the AfriCat Foundation to align its work with national policies and regulations on conservation, in general, and carnivores in particular. As a Wildlife Veterinarian, he is constantly aware of the conservation needs of Namibia’s fauna and is able to make recommendations with these needs at heart.
- **Tristan Boehme:** Trustee – Tristan is involved in the daily running of AfriCat and the marketing of the AfriCat Foundation and its legacy with Okonjima guests. He also works on increasing the organisation’s public profile in order to stimulate donations. He and Donna work hand in hand to ensure that AfriCat meets its maximum potential in the realm of Carnivore Conservation and Education.
- **David Farquharson:** AfriCat UK – As a corporate lawyer, David has assisted with the running of AfriCat UK and various works with the Foundation’s legal requirements and issues. He also manages AfriCat UK’s funds.

AFRICAT STAFF

The AfriCat Foundation runs smoothly thanks to the team of employees who handle everything from the management and running of the organisation to the care of the animals under AfriCat's protection.

- **Selma Admadhila:** Administrator - As AfriCat's office administrator, Selma is responsible for AfriCat's office work, communication throughout the organisation and with potential donors, AfriCat staff issues, as well as overseeing the Carnivore Care Centre and its daily running.
- **Louis Heyns:** Reserve Manager – Louis is responsible for the rehabilitated animals' welfare in the Okonjima Reserve. He monitors the released and rehabilitated carnivores on a daily basis and maintains the database on their interactions with other animals in the Okonjima Reserve, in collaboration with Okonjima guides.
- **A.J. Rousseau:** Environmental Education Coordinator - AJ is responsible for the maintenance, development, and efficient running of our AfriCat Environmental Education Centre. He is also primarily responsible for school visits and liaison of the "Outreach Programme", the daily running of the educational camps, as well as leading most of these camp sessions.



- **Felix Kahare:** Felix is our Environmental Education Centre supervisor and lives at the AfriCat Environmental Education Centre. He attends to the basic maintenance, cleaning, and reorganising of the Environmental Education Centre after each group. He also assists during the sessions, especially when within the Okonjima Nature Reserve, as it is a requirement to have two trained staff members when leaving vehicles.
- **Werner Haroxab:** Senior Field Assistant and Carnivore Caretaker - Werner's role as Senior Field Assistant and Carnivore Caretaker includes overseeing food preparation, feeding, and daily visual inspection of animal welfare.

- **Richard Haroxab:** Junior Field Assistant and Carnivore Caretaker - Richard assists Werner in food preparation, feeding, and daily visual inspection of animal welfare.
- **Albert Malasa:** Field Assistant - As AfriCat Field Assistant, Albert works in the Okonjima Reserve and is responsible for the animal husbandry of AfriCat's resident donkey herd.
- **Justina Kaghuvi:** Housekeeping and Office Assistant - Justina's role as Housekeeping and Office Assistant includes the maintenance, organisation, and cleanliness of the AfriCat office, kitchen, Clinic, Information Centre, and carnivore food preparation areas.
- **German Muzuma, Titus Turitjo, Jackson Kavetu & Uezekandavii Nguezeeta:** AfriCat Lion Guardians - The four Lion Guardians of the Ehirovipuka Conservancy were employed by the CCCP (AfriCat's Communal Carnivore Conservation Programme) in March 2012. Their duties include monitoring and reporting on lion whereabouts, reporting incidents, patrolling fences with Ministry of Environment & Tourism (MET), and monitoring and reporting poaching and other illegal activities. They also work closely with local farmers in identifying priority villages for kraal-building, encouraging, and guiding farmers to adopt the AfriCat Livestock Protection programme and carrying the message of Conservation from the highest authorities to the farmer. As German Muzuma is a Traditional Chief in the area, his word is respected and the AfriCat message is therefore heard more readily by locals.
- **Francois Robberts:** Co-ordinator of the AfriCat North Human-Wildlife Conflict Mitigation & Community Support Programmes. Francois was born on a livestock farm close to the Etosha National Park and is familiar with farmer-predator issues but also understands the need to establish a delicate balance between humans, their land use, and the ecosystem. Francois heads the kraal-building & patrol teams and through his own experience is able to advise and encourage the use of improved livestock farming and protection methods.

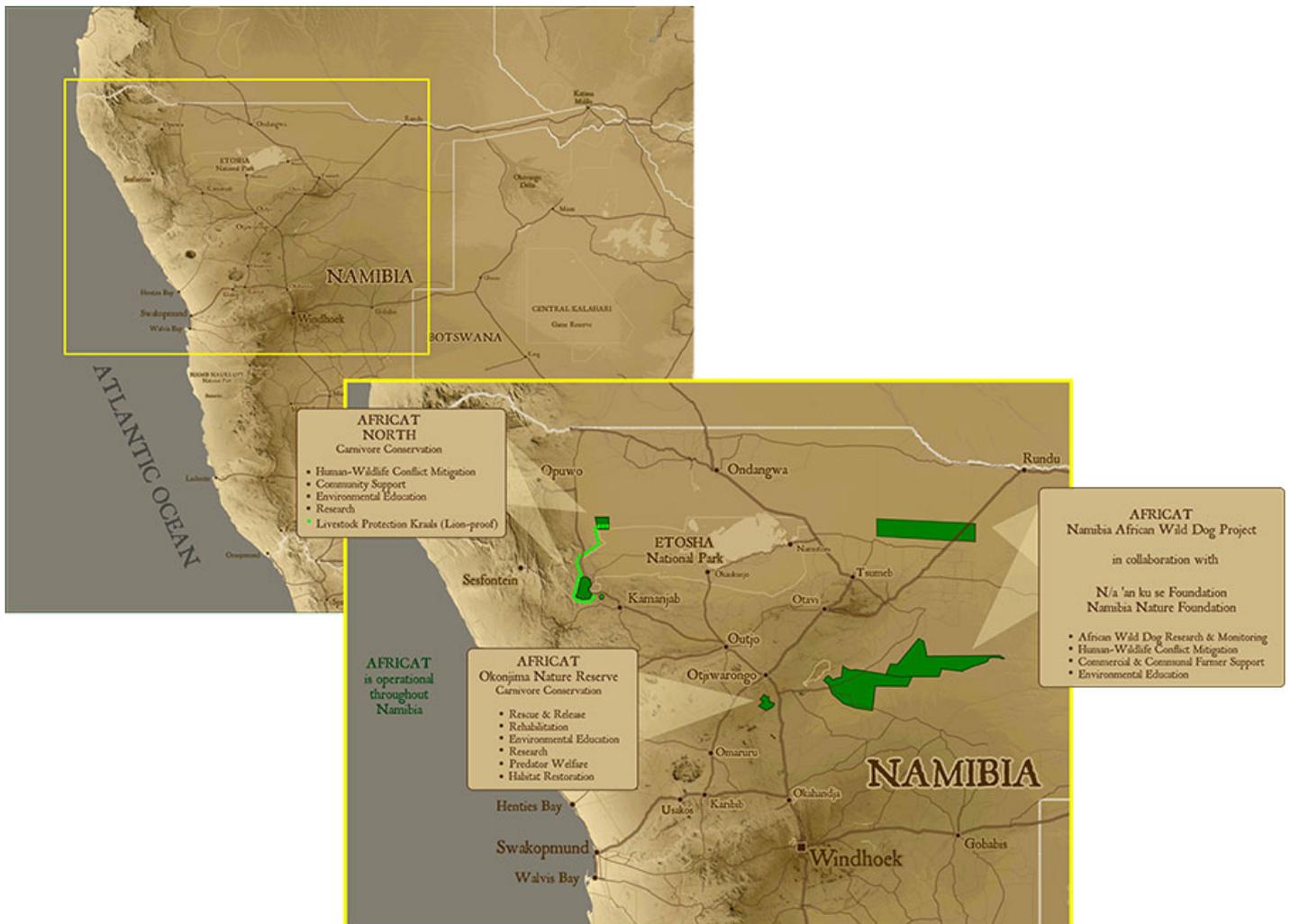


AFRICAT LOCATIONS

The AfriCat Foundation is located just 70 kilometres south of the small town of Otjiwarongo, in the Otjozondjupa Region in Central Namibia; situated on the Hanssen family's cattle farm-turned-Nature Reserve which now operates a 20,000 hectare area in the efforts of long-term Carnivore Conservation, focusing on the rehabilitation of once-captive cheetahs, Environmental Education, research and care of cheetahs, leopards, wild dogs, spotted & brown hyenas.



AfriCat North is AfriCat’s wilderness base, located in north-western Namibia, bordering the Etosha National Park (ENP). AfriCat North is ideally situated in close proximity to the Communal Conservancies along Etosha’s south-western, western and north-western borders, supporting these farmers through improved livestock management and protection programmes, ultimately reducing livestock loss to large carnivores, in particular lions. In so doing, these programmes mitigate the farmer-lion conflict, reducing the number of lions destroyed. From this base, the Hobatere Lion Research Project and Environmental Education programmes continue to support the long-term survival of Namibia’s lions.



AfriCat UK

AfriCat UK represents the AfriCat Foundation in the United Kingdom. It is a registered charity and undertakes fundraising and awareness activities for the AfriCat Foundation. It also maintains a membership database of AfriCat supporters in the UK, maintaining their links with AfriCat and keeping them informed of AfriCat developments and achievements. Chris Packham, a well-known British naturalist, nature photographer, television presenter and author is AfriCat’s patron.



MAIN ACTIVITIES

- In 2013, AfriCat UK was invited to tour with Chris Packham on his 'Wild Night Out' tour. The AfriCat UK team attended 15 shows, handing out newsletters and donation forms, selling AfriCat products, as well as presenting the 'Conservation through Education' message to large audiences attending these evenings.
 - AfriCat UK supports the Executive Director of the AfriCat Foundation, Tammy Hoth-Hanssen on the UK portion of her European awareness raising tour. Meetings are arranged with a number of organisations and individuals with the goal of contributing to the long-term future of AfriCat.
 - David Farquharson, Director of AfriCat UK and a solicitor by profession, files AfriCat UK's statutory accounts with both the Charity Commission and Companies House, and manages the various bequests and legacies which AfriCat UK is the fortunate beneficiary of.
 - AfriCat UK updates and re-connects with the membership base of AfriCat supporters in the UK – the aim of this is to improve awareness of current Foundation activities in Namibia and to constantly reinforce the message that AfriCat is operating effectively to achieve its long held ambition - to keep Namibia's carnivores in the wild. Everyone on the AfriCat UK database with an email address receives the Foundations regular newsletter. In November 2013, the telephoning campaigning organisation, The Phone Room, followed this work up by contacting AfriCat UK members to update them directly on AfriCat's activities and to ask supporters to 'Adopt-A-Spot' for Christmas. The Phone Room undertook a three-stage campaign of communicating directly by phone, post, and email with AfriCat UK's database and by Christmas, at the end of the first part of the campaign, over 40 supporters had taken out an adoption while others had sent a general donation. The vast majority of people contacted were genuinely pleased to hear from AfriCat again and to learn of the conservation and education work being undertaken in Namibia. A full evaluation report on The Phone Room campaign will be produced in 2014.

MAJOR ACHIEVEMENTS

In 2013, AfriCat UK managed to achieve an increase in income from sales of products as well as maintaining levels of income from its existing donation base. In particular, the Christmas 'Adopt-A-Spot' campaign helped to achieve the twin objectives of raising funds for AfriCat and updating AfriCat UK's database of contacts. Awareness about AfriCat and 'Conservation through Education' was achieved as part of AfriCat's Executive Director's fundraising and awareness tour and AfriCat's involvement in well-attended events where AfriCat was represented by sales and information stands.

CONSTRAINTS & CHALLENGES

Against a background of greater competition for funds and declining levels of giving to charity in the UK, AfriCat UK endeavours to increase income from sales of goods as well as actively disseminating materials informing supporters how to leave AfriCat a bequest or legacy within wills and testaments.

FUTURE PLANS FOR 2014

AfriCat UK is once again very fortunate to be working with the Foundation's patron Chris Packham in 2014 on a number of projects to promote AfriCat, including a bespoke event in London at which guests will hear from him and AfriCat.

The Foundation will also attend conservation exhibitions and tourism promotions organised by the Namibian Tourist Board and tour operators, go to wildlife life artists' and photographers' exhibitions to promote AfriCat's 'Conservation through Education' message and, of course, to sell quality products.

As well as developing a high-quality branded product range, AfriCat UK is adapting to the digital world and is moving to make the most of social media, working with Adrian MacKay of DAW Associates to further develop AfriCat UK's digital image.

AfriCat UK also endeavours to work with education establishments to raise awareness by students of AfriCat's mission. Plans are currently in progress for events in two schools.

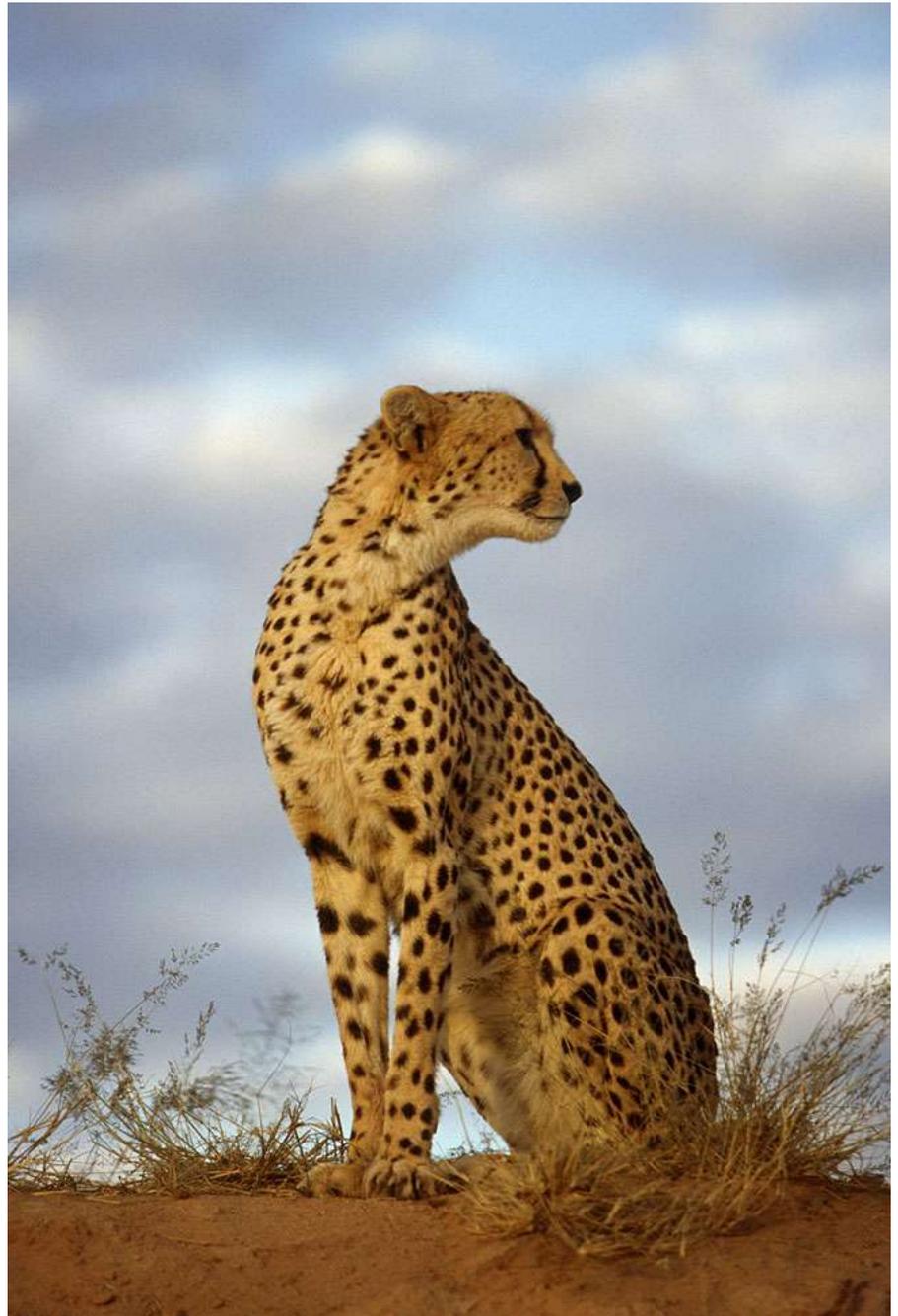
AfriCat USA

AfriCat USA is currently in the process of being legally registered in the US as a legal not-for-profit organisation. Once this registration has been achieved, full-scale awareness raising and fundraising activities will be established under various 'chapters' throughout the United States.

AfriCat and Okonjima - A Symbiosis at Work

Okonjima, home of the AfriCat Foundation, was established as a small 'guest farm' in 1986. Okonjima, meaning "place of the baboon" in the Herero language, is an extensive tract of land nestled among the Omboroko Mountains, about seventy kilometres south of the small town of Otjiwarongo. For the last 35 years, Okonjima has been in the hands of the Hanssen family. Today, nearly 20 years after Wayne, Donna and Rosalea Hanssen took over the cattle farm from their parents, the original farm has grown in size to 20,000 hectares and hosts a guest lodge business. The cattle have gone, grasslands are returning, and wildlife abounds. Although they are separate entities, the relationship between Okonjima, its Nature Reserve, and the AfriCat Foundation is one of symbiosis.

In this, Okonjima owns and manages the land/nature reserve and operates the tourism business, while the AfriCat Foundation provides a unique opportunity for guests and sponsors to view large carnivores, as well as the work of the Foundation. In turn, AfriCat receives an income from the revenue generated by tourism, which contributes to covering the running costs of the organisation as well as an opportunity to obtain additional income from visitors, having witnessed the Foundation's work with carnivores in Namibia first hand, through on-going sponsorship programmes.



II. 2012 -2014 Annual Report

Programme 1: Research

OBJECTIVES

AfriCat undertakes and supports research on the carnivores of Namibia which will contribute to their long-term conservation. The direction of the Foundation's research programme is guided on the larger scale by the Government of Namibia's national policies and species plans while, at the local level, it focuses on issues which the AfriCat/Okonjima symbiotic relationship has identified as essential for the long term sustainability of the Okonjima Reserve and the animals in it.

The major areas of research which AfriCat is currently focusing on include:

- a) Human-wildlife conflict (causes and mitigation measures),
- b) Captive carnivore welfare, and
- c) Carnivore interactions within an enclosed nature reserve.



AfriCat's research programme is guided and coordinated by a Scientific Committee, formed in 2013. Members of the committee include conservation experts, wildlife veterinarians, AfriCat full-time staff, and Foundation trustees. Project proposals are approved by the Committee on a merit basis and their relevance to the Foundation's goals. Research is carried out both by AfriCat staff members and visiting scientists.

The animals, facilities, and staff at AfriCat provide a fairly unique setting in which to undertake both basic and applied research on threatened and endangered wild carnivores in a natural setting, but with opportunities to also learn from captive and semi-captive animals.

KEY ISSUES

- 1) Indicators of optimal health of captive and free-ranging carnivores:
 - a) Dental health;
 - b) Parasite loads.
- 2) Human-Wildlife Conflict:
 - a) Establish lion population density in the Hobatere area of northern Namibia;
 - b) Develop approaches to resolve Human-Wildlife Conflicts through stakeholder participation.
- 3) Assess the population and conflicts of the African Wild Dog (*Lycaon pictus*) in the Greater Mangetti Complex of Namibia:
- 4) To develop an approach to promote conservation through tourism and education with specific emphasis on the complexities of carnivore conservation within a rangeland production area:
 - a) To understand the relationship between a range of predators and their prey in a semi-arid rangeland;
 - b) To understand how predators select and utilise available prey to ensure population growth;
 - c) To understand how predators interact during competition for food and habitat;
 - d) To improve our understanding of the requirements of the different prey species to sustain healthy populations in the presence of a wide variety of predators.



Project 1 - Programme 1: Hobatere Lion Research Project¹

OBJECTIVES

In order to manage Human Wildlife Conflict (the farmer-lion conflict) effectively and efficiently, it is crucial to have adequate and relevant information. AfriCat North is involved in programmes which will establish population density and activity patterns of lions living around human settlements in northern Namibia.

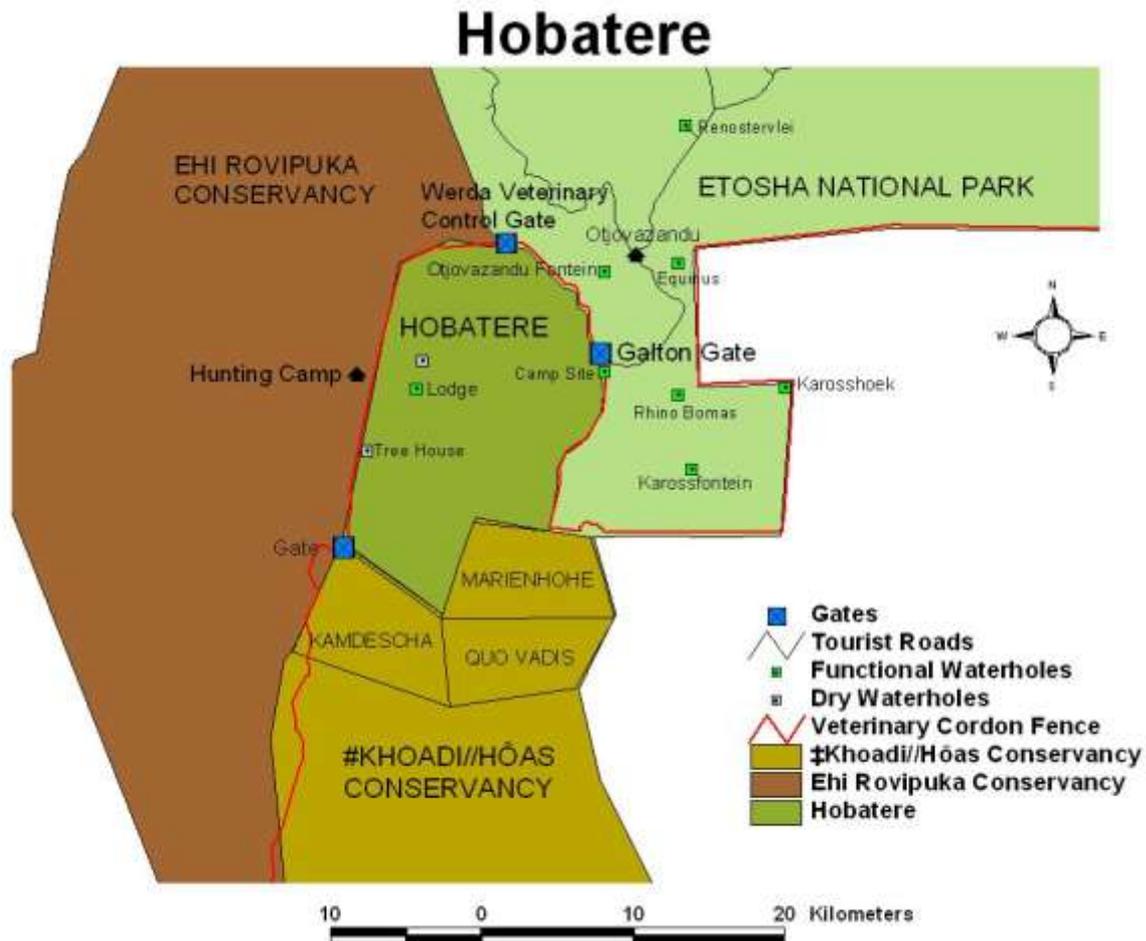
It is believed that the lion populations of the Etosha National Park and Kunene Region are FIV-free (Feline Immuno-deficiency Virus / Feline AIDs); one of the few FIV-free lion population in Africa. This FIV-free status makes the Etosha lion population an extremely important founder population source. The Hobatere Concession Area lies adjacent to western Etosha National Park and is government-owned and managed by the Ministry of Environment & Tourism. Two Communal Conservancies share the potential to develop tourism ventures within this concession area. Between 1989 and 2011, the Hobatere Tourism Concession was privately managed. The Concession was, however, terminated in May 2011 after a fire destroyed the main lodge building. No monitoring of the lion population has since been undertaken.

The objective of the Hobatere Lion Research Project is to conduct a study of the Lion (*Panthera leo*) population within the Hobatere Concession Area and the movements between the Hobatere Concession Area, western Etosha National Park, and adjacent communal farmland. Specific objectives are:

- To understand the population dynamics of the lions utilising the Hobatere Concession Area, and how one or more of the prides found within Hobatere relate to the greater Kunene population and/or the western part of Etosha National Park;
- To understand the dispersal and or migration/immigration patterns of lions within Hobatere and the surrounding areas;
- To understand the role of:
 - water and prey availability within Hobatere and the surrounding areas;
 - fencing surrounding Hobatere and Etosha National Park;
 - human pressure from outside of Hobatere;
 - hunting within the surrounding areas;
 - how these factors affect the movement of the so-called 'Hobatere lions' and the associated human-lion conflict within the area;
- To test the effectiveness of human-lion conflict mitigation measures, eg. kraals, herding, geo-fencing/early warning systems, and translocations.



MAIN ACTIVITIES



Work started in April 2013 due to extremely low rainfall during the 2012/2013 rainy season (September 2012 - April 2013), and the continued drought to date. The Campsite and Lodge water points, both within the study area, provide the only available water source, serving the entire 34,000-hectare area [see map below]. In order to establish the numbers and whereabouts of the ‘Hobaterere lions’, AfriCat strategically positioned trail cameras and established baiting-stations at the Campsite and Lodge water points: two trail cameras were placed at each water point and one each at a baiting-site close to the water points but not directly at the waterholes. The visual footage was downloaded every 2–3 days, collecting approximately 3,000 photographs from each site. Large numbers of herbivores were photographed, especially Mountain Zebra (*Equus zebra hartmannae*), Oryx (*Oryx gazella gazella*), Greater Kudu (*Tragelaphus strepsiceros*), Springbok (*Antidorcas marsupialis*), Black-faced Impala (*Aepyceros melampus petersi*), as well as various carnivores, including Spotted Hyaena (*Crocuta crocuta*), Brown Hyaena (*Hyaena brunnea*), Cheetah (*Acinonyx jubatus*), Leopard (*Panthera pardus*), and Lion (*Panthera leo*). Chacma Baboons (*Papio ursinus*) also frequented the water holes in large numbers. After the initial weeks offered no lion sightings or reaction to calling stations, bait (antelope species and zebra bought from surrounding commercial farmers) was tied to a large, heavy tree trunk, positioned at the optimal darting range (25-30m). This method of attracting lions to a specific site in order to immobilise them was adopted due to the fact that the ‘Hobaterere lions’ are extremely skittish as a result of continued and persistent persecution along the boundaries with commercial and communal farmland.

Between April–October 2013, the AfriCat research team plotted the road system and ‘dry’ water points in order to familiarise themselves with the area and terrain. Hobaterere is situated adjacent to

western Etosha National Park, comprising highlands ranging from 1,100–1,300m elevation, floodplains, and the ephemeral Kaross River system.

The following information was gathered April–October 2013, in the Hobatere Concession study area:

- Three young, adult males, VHF-collared with no transmission, one of which seems to be dominant and is often solitary or with one or two known females accompanied by 12-14 month old cubs. The males were collared by AfriCat on a commercial farm against the south-western Etosha National Park border in March 2012. They were returned to the Etosha National Park as part of a collaborative project with the Ministry of Environment & Tourism. The lions, however, returned to a permanent baiting station on the said farm. AfriCat successfully chased them off and they thereafter established new territory in Hobatere;
- One adult female + 5 cubs (estimated born Oct. 2012); seen regularly on trail cameras at Campsite waterhole, at times with one male and/or with a female with 2 cubs;
- One adult female (brand-marked by Dr. Stander at least 3-5 years ago) – last seen end 2012;
- One sub-adult male (often seen with the brand-marked female in iii above) – last seen end 2012;
- One adult female + 2 cubs (estimated born Dec 2012); has been seen with two males, possibly two of the three mentioned in i above; this lioness was collared using a GPS-Satellite collar on 27 October 2013, now known as ‘Spots’, in honour of the Dutch charity, Stitching SPOTS, who sponsored this collar;
- One adult female (collared as part of another as yet unknown project, collar too tight but lion in excellent condition, now known as ‘Black-collared lioness’); was solitary until seen with 2 small cubs in July 2013. Since the birth of her cubs, she is in company with Spots, forming a tight-knit group of two females and 4 cubs. A solitary male is seen at irregular intervals with this small group of six.



MAJOR ACHIEVEMENTS

After months of baiting at the Lodge waterhole, one lioness was successfully collared using a GPS-Satellite collar and named Spots (ref. point v. above). After a few months, the GPS system settled into regular downloads via satellite every 12 hours, giving AfriCat up to 12 locations for Spots and her group for the previous 24 hours. It is this location plotting which will help AfriCat predict when the group is straying too close to the boundary fence and the neighbouring farmland.

In line with the study objectives, the Hobatere Lion Research Project will soon be in a position to provide the adjacent farmers with essential information on the lions' whereabouts. A number of communal farmers are positive that the collaboration between the Ehirovipuka Conservancy and AfriCat will alleviate the farmer-lion conflict along the Hobatere borders.

CONSTRAINTS AND CHALLENGES

The Hobatere Lion Research Project is hampered by lack of funding for necessary equipment such as a research vehicle, a laptop computer, trail cameras, GPS satellite collars, VHF telemetry equipment, and camping gear. Farmer-lion conflict is rife along the boundaries of the Hobatere Concession area due to the fact that the border fences separating farmland from this protected areas are porous, allowing easy movement of animals back and forth, especially in drought conditions when lack of water, grazing and browsing force herbivores and other resident animals to migrate onto adjacent farmland. In addition, such dry conditions and this porous boundary fence encourage livestock movement into the Hobatere Concession from the adjacent communal farms. Conversely, the drought has resulted in a lack of grazing/browsing and restricted water within Hobatere, forcing the natural prey species to leave the confines of this area, with the lions following onto adjacent farmland, escalating the Human-Wildlife Conflict.

The GPS satellite collar enables AfriCat to pinpoint the collared lions' whereabouts every 12 hours. Should the lion(s) be moving towards the boundary fence or out of the protected area, a text message is sent to warn the farmers in this so-called 'hot-spot', to kraal/pen their livestock in order to minimise loss. A number of farming communities along the boundary fences of Hobatere have joined the Livestock Protection Programme, whereby AfriCat has built strong, nocturnal kraals to effectively mitigating this conflict. There are, however, a large number of farming communities in close proximity to Hobatere, still practicing outdated farming methods which offer little or no protection against marauding lions or any other predators.

FUTURE PLANS

The lion population size will be determined through the recognition of groups and individuals. The entire study area will be stratified and each strata will be covered systematically to capture and mark individuals by means of GPS satellite collars. Attempts will be made to mark and individually recognise 75% of the population and population estimates will be calculated using mark-recapture models within each strata. Aerial or GPS locations will be followed by ground observations to record group composition in relation to individuals and age/sex structure and the ratio of marked/unmarked individuals. The movements of lions will be related to habitat, prey distribution, intra-specific social interactions, and other land tenure variables. Blood samples will be taken and submitted to an appropriate laboratory for routine serology and biochemistry.



Project 2- Programme 1: Namibia Wild Dog Project (NWDP) – A collaboration between Namibia Nature Foundation, N/a’an ku sê, and AfriCat.

OBJECTIVES

Both national stakeholders and international African Wild Dog experts have identified the strong need to re-assess range, abundance/density, and conflict involvement of the species for the free-ranging stock. One of the main factors hindering effective African Wild Dog conservation remains the lack of information on their distribution and status. The objective of this project is therefore to assess the population and conflicts of the African Wild Dog (*Lycaon pictus*) in the Greater Mangetti Complex, Namibia.

The Namibian Ministry of Agriculture, Water, and Forestry has recently designated approximately 150,000 hectares of suitable African Wild Dog habitat in Tsumkwe District for small stock development, as well as another approximately 150,000 hectares in eastern Kavango, adjacent to Khaudum National Park. This drastically increases the risk of human-Wild Dog conflict across much of the remaining African Wild Dog range. In 2009, livestock farming contributed approximately 3.2% to Namibia’s gross domestic product.¹ This figure represents why potential conflict species are usually not tolerated, as well as the need to develop techniques to protect livestock from predation. Unfortunately, there is no evidence that past outreach programmes have had any effect on farmer’s attitudes towards conflict species and a better understanding is needed of African Wild Dog numbers and population dynamics within the free-ranging population, in order to develop realistic and

¹ Namibian Central Bureau of Statistics, 2009

appropriate mitigation techniques. It is hoped that this additional research will act as a vital baseline study that can then further contribute towards developing a National Action Plan.

The Kavango Region, including the Mangetti Complex, represents an area of known African Wild Dog presence, with frequent visual sightings.² Although the Mangetti Complex is considered a high Human-Wildlife conflict zone, it also the only area within Namibia that constitutes a viable natural dispersal area for Wild Dog, and is recognised as a potential (historical) corridor between eastern African Wild Dog populations and Etosha National Park. During the International Wild Dog Workshop 2011, the Ministry of Environment and Tourism (MET) identified the Mangetti Complex as an area of low-level sampling (an area in need of more research and monitoring) with regard to African Wild Dog research and a priority in terms of its conservation in Namibia.

Specific objectives are therefore:

- Help establish reliable figures on the free ranging African Wild Dog population in Namibia;
- Document the perceived and actual degree of human–Wild Dog conflict in the Mangetti Complex;
- Develop a robust method of disease management (Mangetti Ranch);
- Contribute towards developing a National Action Plan.

MAIN ACTIVITIES

Phase 1: Help establish reliable figures on the free ranging African Wild Dog population in Namibia

The primary focus for Phase 1 has been to establish presence/absence data for the African Wild Dog in the Mangetti complex. This was done over an extended period of time and included basic ecological parameters such as distribution and range use, group composition, movements where possible, breeding, and prey ecology.

ACTIVITIES

- Remote camera traps were positioned at identified African Wild Dog activity locations e.g. previous dens, anecdotal observations, water holes, and wildlife or livestock kill sites, as well as any other suitable locations in order to document presence/absence as well as group structures;
- Images were used for spot pattern individual identification to document numbers, re-visit rates, pack sizes, and change in group structures, as well as activity patterns;
- Reliable spoor records were GPS-recorded and mapped to aid distribution and range pattern assessments;
- Direct observations were recorded and documented photographically to assist in population dynamics and ecology;
- Where observation spans allowed, notes on behaviour were recorded and individual African Wild Dogs have been assessed according to a physical condition score protocol;
- Personal interviews and anecdotal observations of African Wild Dog across the region were recorded;

² Stander, P. Large Carnivore Atlas, 2003

- As part of the larger ecological component of the study, faecal samples were collected from verified dens or defecation sites to enable prey species identification. Prey information has been recorded at confirmed Wild Dog kill sites, including both wildlife and domestic species;
- Due to the dense vegetation in the research area, vehicle-based game counts are not feasible; however, aerial game counts were conducted in order to assess and document natural prey abundance and composition. The Phase 1 estimate is based on 2 x 3hrs aerial survey (across 12 months) for game population assessments as well as locating possible denning sites. This was used in conjunction with camera data analysis.

Phase 2: Document the perceived and actual degree of human–Wild Dog conflict in the Mangetti Complex

ACTIVITIES

- Regular farmer/landowner visits were conducted in order to build positive relations within the community, as well as to determine perceptions and assess conflict levels. Discussions regarding appropriate and realistic mitigation measures as well as improvements to existing animal husbandry practices were undertaken. There was also opportunity to assess support for experimental techniques such as the bio-boundary concept for exclusion of African Wild Dog from livestock areas – trialled currently in Botswana;
- Questionnaires (and field observation data sheets) were used to document bio-geographical features of the study area e.g. water availability, fences, prey clusters, livestock management and distribution etc., as well as landowners’ attitudes and perceptions towards the study species.



Phase 3: Develop a robust method of disease management (Mangetti Ranch)

The Namibia Development Corporation (NDC) has supported the development of a vaccination programme for domestic dogs on the Mangetti Ranch; this is believed to be the most effective method of disease management.

ACTIVITIES:

- In order to make a significant impact, a registered veterinarian was brought in for three sessions over three days within the 12-month period. The programme vaccinated against rabies, canine parvovirus, and canine distemper, and included boosters;
- These sessions provided important opportunity for community education and to build support for the project.

Phase 4: Contribute towards developing a National Action Plan

The ultimate goal is to contribute this information towards the International Union for Conservation of Nature (IUCN) National Strategy.

ACTIVITIES

- Develop educational and mitigation (i.e. conflict prevention) procedures to help alleviate the existing level of conflict with, and negative attitudes towards, African Wild Dog;
- The data and results of this study will be made available to the MET, local farmers, communities, and other interested parties;
- Collaborate with MET to standardise the survey data formats with those currently in use as well as the work of the Namibia Nature Foundation (last decade). Future surveys on African Wild Dog can then be incorporated and create a more comprehensive assessment at the national scale;
- Mapping of relevant information will be done using ArcGIS software. Statistical analyses will be performed on questionnaire surveys as well as sighting data collected.

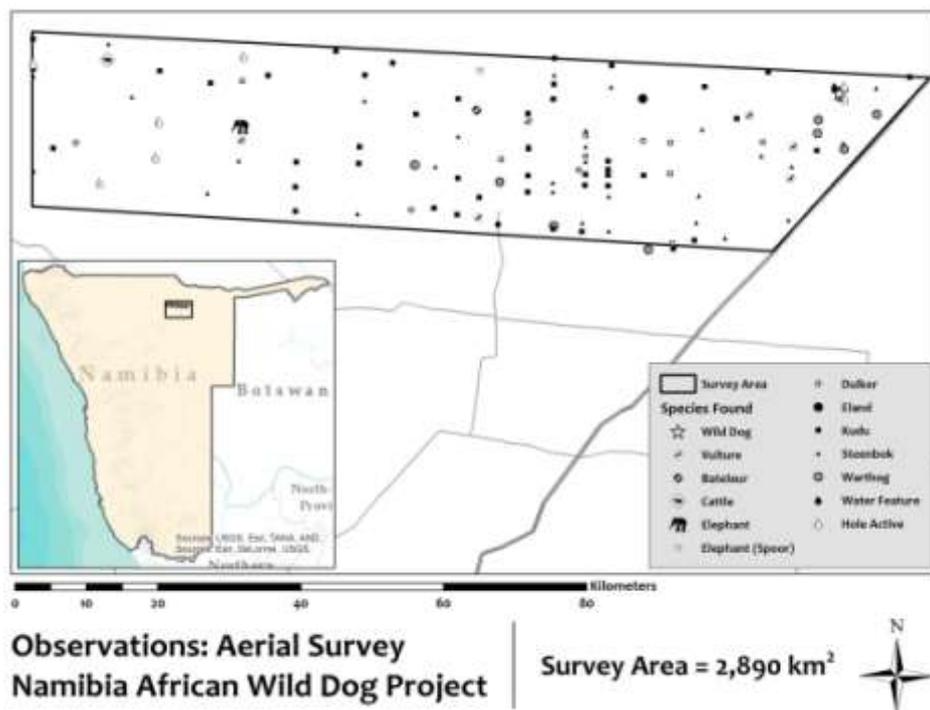
With nearly 90% of African Wild Dog living in populations which span international boundaries, conservation efforts require trans-boundary cooperation. Data sharing is going to play a vital role in the conservation of the species; not only within Namibian organisations but also with other members of the Kavango-Zambezi Trans-Frontier Conservation Area (KAZA TFCA).



Map Copyright: Joseph Lemeris
Jnr & Florian Weise - Namibia
African Wild Dog Project.

MAJOR ACHIEVEMENTS

During Phase 1 of the Project, pilot surveys on African Wild Dog presence, prey availability, conflict potential, landowner attitudes, and interface with domestic dogs were completed. The Project partners also contributed to the draft formulation of Namibia's Conservation Action Plan for the African Wild Dog. The Project's findings were shared with the Ministry of Environment and Tourism (MET) to supplement existing efforts towards study of the species.



A total of 36 verified African Wild Dog observations were recorded in the greater Mangetti Complex during Phase 1. The sample includes 22 sightings, 8 independent camera trap records, and 6 confirmed reports. Of the total sample, 8 observations (22.2%) occurred in a conflict context of livestock depredation. Moreover, 2 records (5.6%) involved road collisions with African Wild Dogs, including 1 possibly fatal incident. An additional 11 occurrence reports were rejected because they could not be substantiated objectively. Auto-correlated observations were also excluded.

The spatial distribution of observations demonstrates that African Wild Dog utilise communal ($n=6$), parastatal ($n=10$), freehold commercial ($n=7$), and government protected ($n=13$) areas and, therefore, all land tenure systems in the greater Mangetti Complex. The species is therefore assumed to be resident in the study area.

Reported African Wild Dog group sizes varied considerably during the pilot survey, ranging from 1 to 17 individuals. This is mainly attributed to the fact that African Wild Dogs rarely can be observed for prolonged periods or be counted accurately during opportunistic encounters. Although preliminary research indicates the greater Mangetti Complex appears to support, entirely or in part, at least 3 distinct groups of African Wild Dog, further research is required to better understand this. There are repeat observations of a group consisting of between 4-8 adult African Wild Dogs in Mangetti NP, which also utilise the communal farms east of ENP, and possibly parastatal land west of ENP as well. This group was positively identified from 3 independent camera trap records inside ENP and is believed to have denned successfully on communal farmland east of the ENP in 2013.³ In addition, repeat records of a group ranging between 9-17 adult African Wild Dogs suggest the presence of a larger pack on Kavango Cattle Ranch (KCR) and on adjoining properties southwest of the Ranch. Anecdotal information indicates successful denning of this group in the area of Mangetti West in

³ M. Kaveto, pers. comm. 2013

2013.⁴ Finally, a group of 2-5 African Wild Dogs has regularly been recorded in several locations on the eastern farms of KCR as well as on the freehold properties south of the Ranch. The group is assumed to split into 2 smaller units of 2 and 3 adults occasionally.⁵

CONSTRAINTS AND CHALLENGES

A series of structured land manager interviews on freehold commercial farms in the vicinity of KCR, together with repeat livestock depredation reports from communal farms around Mangetti NP, indicate that African Wild Dogs are perceived as a nuisance and conflict species on stock production properties. About 20% of all African Wild Dog records during Phase 1 entailed confirmed livestock depredation incidents.

Land managers acknowledge that African Wild Dogs are persecuted opportunistically and indiscriminately in the greater Mangetti Complex. Anonymous interviews revealed that approximately 40 African Wild Dogs were lethally removed from commercial ranches between 2009 and 2012; groups of 10+ individuals are actively persecuted, especially during the denning season.

Domestic dogs were often encountered away from homesteads and without human supervision. Residents also confirmed that dogs are frequently traded between cattle posts and roam unrestricted in the environment. These dogs potentially interact with free-ranging African Wild Dogs and further pose a direct threat to wild ungulate populations. Commercial livestock farmers in the vicinity of the Ranch confirmed lethal removal of at least 15 domestic stray dogs in 2013, either through poisoning or shooting. Domestic dogs are perceived as a potential disease vector and danger to wildlife populations on private livestock farms.

Road collisions with African Wild Dog have been reported and possibly contribute further to pack disruption. Finally, habitat segregation and low levels of contiguous land management (as is evident from the diversity of land use and land tenure systems) ultimately dispose resident African Wild Dogs to a variety of direct threats including local prey scarcity, varying levels of persecution, as well as pathogen exposure from domestic dogs.

FUTURE PLANS

If reasonable sampling efforts can be achieved, a *Mark-Capture Recapture* based study may permit density analysis. Reliable spoor records will be GPS recorded and mapped to aid distribution and range pattern assessments. Indiscriminate captures by the farming community will be utilised to fit a GPS satellite monitoring collar so as to document range use and movement patterns more accurately, as well as to confirm livestock predation. Regular farmer/landowner visits will be conducted in order to build positive relations within the community, as well as to determine perceptions, assess conflict levels. Educational and mitigation (i.e. conflict prevention) procedures to help alleviate the existing level of conflict with, and negative attitudes towards, African Wild Dog will be developed.

⁴ A. Dries, pers. comm. 2013

⁵ S. Nel, pers. comm. 2013

Project 3 - Programme 1: Research in the 20,000 hectare (200 km²) Okonjima Nature Reserve

OBJECTIVES

To develop an approach to promote conservation using tourism and education as catalysts, with specific emphasis on the complexities of carnivore conservation within a rangeland production area.

The immediate mission is to turn the 20,000 hectare Okonjima Nature Reserve, which was recently denuded farmland, back to its natural state last seen, perhaps, 200 years ago. The approaches engaged in this regard must be sustainable and a benefit to local communities for it to survive the tides of social and environmental change in Namibia. Researching herbivores and carnivores within the Okonjima Nature Reserve, particularly cheetahs, leopards, and brown hyenas, will help future farming communities and, ultimately, reduce the numbers of predators killed on farmland. The objective of AfriCat's research in the 20,000 hectare Okonjima Nature Reserve is to develop practical solutions to the farmer-carnivore conflict and contribute to the understanding of herbivore-carnivore interaction for the benefit of animal conservation.

The sub-objectives are:

- a) To understand the relationship between a range of predators and their prey in a semi-arid rangeland;
- b) To understand how predators select and utilise available prey to ensure population growth;
- c) To understand how predators interact during competition for food and habitat;
- d) To improve understanding of the requirements of the different prey species to sustain healthy populations in the presence of a wide variety of predators.



AfriCat is currently implementing two studies in the 20,000 hectare Okonjima Nature Reserve.

Predator-prey interactions: This study aims to establish how private, tourism-based game parks in Namibia can play a role in the long-term conservation of carnivores. The study will develop a model for the variety of prey animals which can be sustainably supported by this variable environment. The model will be tested against the information available and new information gained from research (data gathered through radio collars and observations, direct management action, land recovery management, focusing on the species in their natural habitat). This model will be used to predict the predator population which can be supported by the available prey base. This prediction will be tested using radio-collared predators to indicate habitat preferences and their overlap with prey species. Predator population responses will be monitored by direct observations of predators in their natural habitat. These models will then be used to inform other conservations of the appropriate predator-prey numbers in these environments and will be evaluated against the outcomes on a regular basis.



Rehabilitation of degraded areas:

This long-term study will investigate different methods of rehabilitating degraded areas. Standard evaluation techniques such as the Landscape Function Assessment (⁸Ludwig et al. 2004) will be used to determine the success of different approaches.

Herbivore (prey) population monitoring project:

In order to be able to support a prey sustainable population in the presence of predators it is essential to understand the resources available to the different prey species and to understand their habitat preferences for foraging and resting. Further, in order to be able to sustain these aims, the following aspects will be addressed by AfriCat or through directed research projects:

- a) Classify the vegetation and habitats in the study area to be able to map the resource areas for the different herbivores according to their requirements;
- b) Establish how the different prey species utilise these habitats in the different seasons and under different rainfall conditions;
- c) Determine the number of animals which can be supported by the environment on a yearly basis and recommend management actions accordingly;
- d) Determine the increase in available resources through rehabilitation projects;
- e) Sustainable use of wildlife: Information gained from the above studies will help determine the number of animals which can be utilised for other purposes such as supply of game meat to tourists without compromising the prey species or their predators.

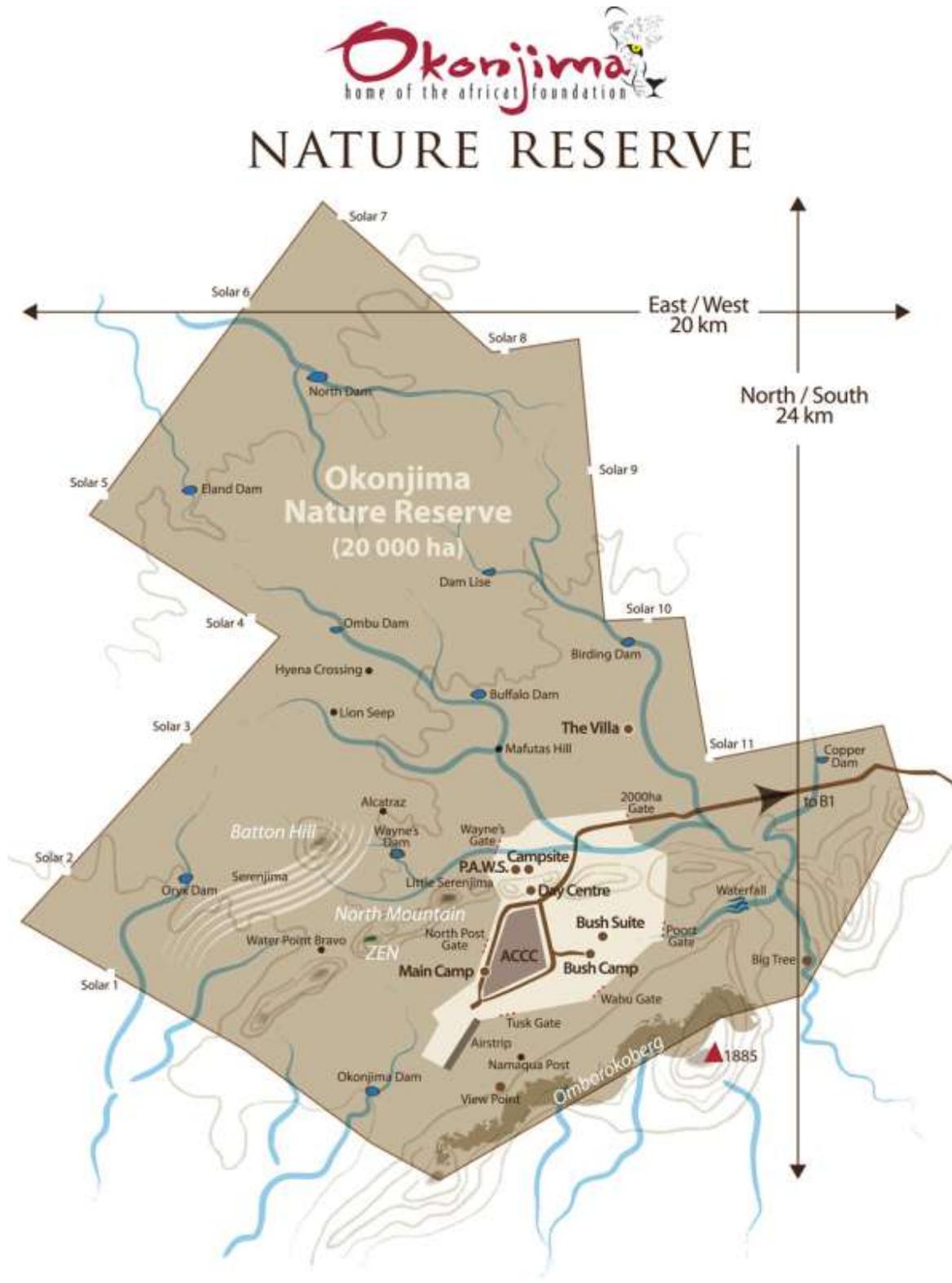
MAJOR ACHIEVEMENTS

- International recognition in a joint study where AfriCat and scientists from South Africa and Australia demonstrated very little body temperature rise during cheetah hunts. These results were in contradiction to a paper written in 1973⁶ which suggested that hunting may be a thermally limited activity through a heat storage activity. The 'thermal regulation' research project took place in the Okonjima Nature Reserve using previously captive cheetahs, which had been successfully rehabilitated, as research subjects⁷.
- Successfully opened 500 hectares of new plains (2013), by removing invasive bush, as part of a 7,000 hectare project to reintroduce springbok, which was once endemic in this area.
- A 'Skid Steer Loader' with circular blade (manufacturer: Gehl) was purchased to cut down invasive vegetation without destroying sensitive grassland.
- Perimeter fence-line changes were made and certain design restrictions around 4 Okonjima Camps and schools rectified such that rehabilitated carnivores are no longer being trapped/cornered by hyena and leopard by way of a 'safe passage' created for carnivores and herbivores throughout the reserve.
- Drilling of seven boreholes, of which three were successful, as part of a programme to better distribute game throughout the reserve.
- The installation of five 'Vivotek' cameras to improve box trapping for monitoring of the population-density studies. The cameras enable the monitoring of animals around box traps and ensure only targeted species or specific subjects are trapped. Utilising cameras, trap-gates may be closed remotely, ensuring that the animals are darted within 15 minutes of capture, minimising stress levels. Camera feeds are now live on the web. Cameras are also placed at key waterholes, for the trial stage of the Herbivore Population Monitoring Project.
- 6 more leopards were radio-collared during 2013 for the predator/prey population study (bringing the total to 10).

⁶ Taylor, CR & Rowntree, VJ (1973)

⁷ Temperature Regulation and heat balance in running cheetahs: a strategy for sprinters? Am J Physiol 224, 848-851.

- Purchase of a 'gyrocopter' to be able to conduct an organised and more accurate game count to better indicate game population numbers, previous methods of which had entailed guestimation and extrapolation.
- Opening up of a further 15kms of 'bush-tracks' to gain access to drainage lines which are frequented by leopards and cheetahs (total road infrastructure in the reserve = circa 320km).



CONSTRAINTS AND CHALLENGES

- Finding and/or developing a way to de-bush denuded farmland which will not cause erosion or the invasion of other weed and bush species.
- Finding a practical solution to help maintain incumbent grasslands in a natural way, i.e controlled burning programme.
- Develop better methods to radio-track, monitor, and research animals without having to immobilise them every 2 years for radio collar adjustments and battery replacements.
- Finding the most sustainable way of re-seeding the grasslands with perennial climax veldt, e.g Alan Savory's holistic farm management programme
http://en.wikipedia.org/wiki/Allan_Savory

FUTURE PLANS

- Introduce springbok, which was once endemic in the area. This will greatly improve the prey-base for the AfriCat Rehabilitation programme.
- To relieve from bush encroachment and open up 1/3 of the 20,000 hectare Okonjima Nature Reserve. Opening 1/3 into mixed woodland and leaving 1/3 bushveld thickets – thus, with 500 hectares of de-bushing completed, the remaining target is circa 6,500 hectares.
- Building natural water points, i.e. building dams and installing solar pumps.
- Constructing and maintaining the circa 320km of road works in such a way that will minimise erosion and maximise the utilisation of the reserve.
- Combating erosion in all denuded areas of the Okonjima Nature Reserve, therefore reversing land degradation and erosion which has occurred over the past 50 years.



Project 4 - Programme 1: Research in the AfriCat Carnivore Care Centre

OBJECTIVES

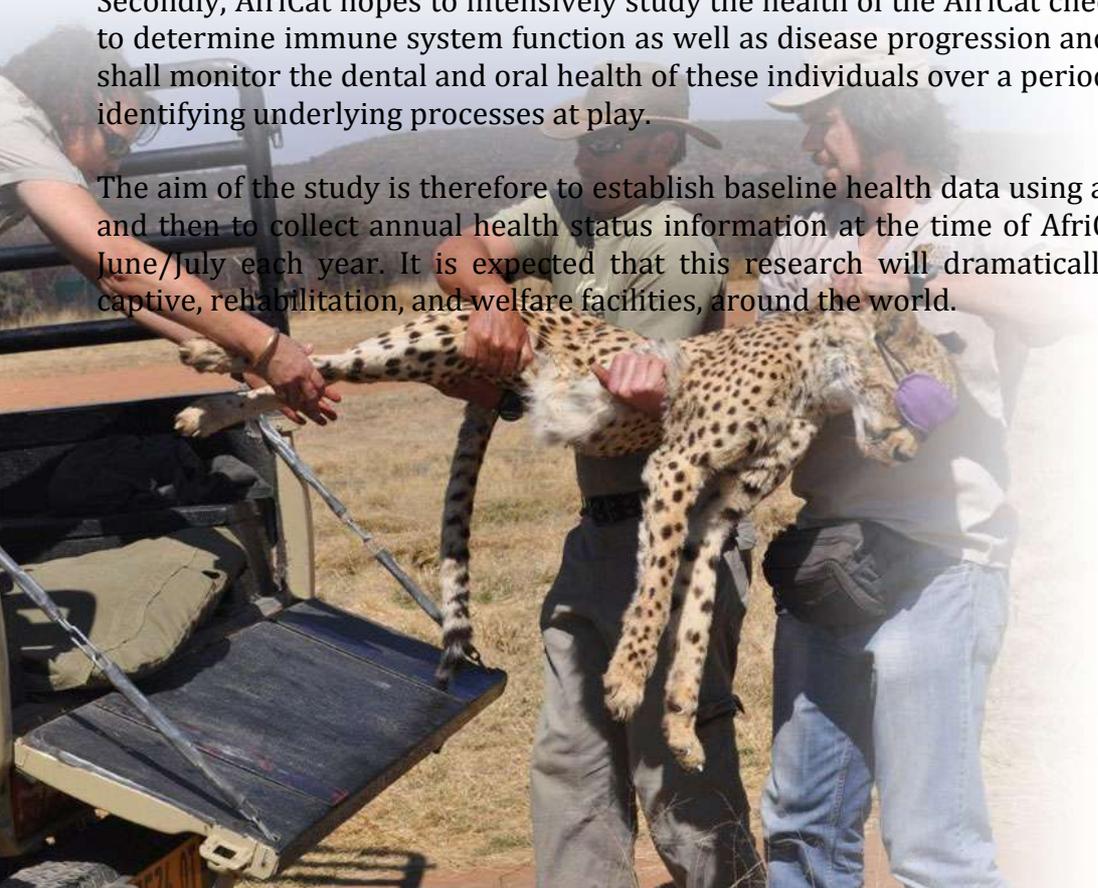
The animals, facilities, and staff at AfriCat provide a fairly unique setting in which to undertake both basic and applied research on threatened and endangered wild carnivores in a captive, semi-captive, and a free-ranging environment. Optimal health is central to both animal welfare and conservation and is therefore a key focus of research.

In captivity, cheetahs are known to frequently suffer from a number of unusual diseases not typically seen in other large captive felids. These include glomerulosclerosis, renal amyloidosis, oxalate nephrosis, lympho-plasmacytic gastritis, veno-occlusive disease, splenic myelolipomas, cardiac fibrosis, and adrenal cortical hyperplasia with lymphocytic depletion of the spleen, as well as several ill-defined neurological diseases. Dental and oral diseases have also been seen frequently in this species and the relevance thereof, as well as the influence they may have on several of the previously mentioned conditions, is still unclear. Some of these chronic degenerative diseases eventually affect the majority of cheetahs in captivity and are considered to be the primary cause of morbidity and mortality in adult animals. In contrast, the incidence of similar histological lesions in free-ranging cheetahs was found to be very low. Stress, lack of exercise, low genetic variability, and the provision of unnatural diets in captive facilities have been proposed as potential causal factors, but to-date convincing pathophysiological explanations for these diseases have been lacking or unsatisfactory.

Chronic diseases are often difficult to investigate due to the time span over which they develop and the complex biological interactions in living organisms that confound simplistic explanations. AfriCat has therefore proposed a three-pronged approach to clarifying the mechanisms of these idiopathic diseases in captive cheetahs.

Firstly, AfriCat plans to compare the metabolic profiles of captive cheetahs to those of their free-ranging counterparts. This is expected to highlight abnormal serum and urine metabolite concentrations in the captive animals, thus generating new hypotheses for further investigation. Secondly, AfriCat hopes to intensively study the health of the AfriCat cheetahs over a number of years to determine immune system function as well as disease progression and prevalence. Thirdly, AfriCat shall monitor the dental and oral health of these individuals over a period of time, which may assist in identifying underlying processes at play.

The aim of the study is therefore to establish baseline health data using a broad range of technologies and then to collect annual health status information at the time of AfriCat's annual health checks in June/July each year. It is expected that this research will dramatically benefit the large felids in captive, rehabilitation, and welfare facilities, around the world.



MAIN ACTIVITIES

- The completion of the modern AfriCat clinic in June 2013 provided an excellent veterinary facility and working environment for the annual health checks. The on-going improvement of the clinic as well as new equipment ordered for 2014 is a testament of the vision to provide the best veterinary care.
- The first AfriCat Research Committee meeting was held on 30 June 2013.
- Baseline data and samples were collected from all the cheetahs, lions, leopards, and caracals at AfriCat during the annual health examinations performed between 4 May and 17 May 2012 and between 25 June and 6 July 2013.
- A research project entitled “The long-term health monitoring and immune-competence of captive cheetahs (*Acinonyx jubatus*) and other felids at AfriCat in Namibia” was registered with the Namibian Ministry of Environment and Tourism.
- Blood, urine, and tissue samples were successfully transported to laboratories in South Africa for analysis after all the relevant CITES and veterinary permits were obtained.



MAJOR ACHIEVEMENTS

- The completion of the AfriCat clinic with its examination/procedure room, storage, and laboratory facilities in June 2013.
- The establishment of the AfriCat Research Committee to provide direction for the research activities at AfriCat as well as a mechanism for the evaluation of individual research proposals.
- Every captive large cat at the AfriCat Foundation was thoroughly examined and samples were collected from them for extensive analysis during the 2012 and 2013 annual health checks. This work will form a sound baseline for future research.
- The samples and data collected will make up the bulk of the materials for Dr. Adrian Tordiffe's PhD project entitled "Metabolic profiling of southern African cheetahs (*Acinonyx jubatus*)", which will be completed in 2014.
- The samples will also be used for a comparative study of serum and urine electrolyte and renal physiological parameters between captive and free-ranging cheetahs, conducted by Dr. Gavin Hudson-Lamb from the University of Pretoria (South Africa). This work will also be completed in 2014.
- Dr. Gerhard Steenkamp has been undertaking PhD work on dental and oral health in cheetahs, and hence data collected related to this will be integrated in his dissertation.
- A contraception research programme which commenced in 1998, using implants of *Deslorelin*, a reversible gonadotropin-releasing hormone, was completed in 2013. *Deslorelin*, a GnRH agonist, was developed in Australia. In cheetahs, it works in both females and males. The implant, a small pellet, is injected subcutaneously on the side of the neck. For cheetahs a 4.7mg implant is used, which lasts approximately 18 months. In lions, double the dose is used, and this lasts about 30 months until females conceive again. *Deslorelin* can be used in baboons, monkeys, mandrills, Wild Dogs, leopards, tigers, and a number of other species. It does not work so well in larger animals such as elephants where, instead, a contraceptive vaccine is used. *Deslorelin* is self-reversing in that, after 18-24 months, there is insufficient hormone released to suppress the release of the two gonadotropin hormones. And so, slowly, the animal will start cycling again. The first few cycles of a female will be infertile. The recovery in the male will be slow as well. To maintain contraception in male and female cheetahs AfriCat treats them annually during the annual health check. If, on the other hand, a cat is released into the wild with the intention to resume natural breeding, then AfriCat simply stops such treatment and permits the implants to reverse. The evaluation of *Deslorelin* at AfriCat demonstrated that:
 - it has no side effects and is a safe method of contraception;
 - it does not pass through the food chain;
 - in many cases such a reversible method is preferable to permanent methods so that animals can breed again at a later stage;
 - it has minimal effects on an individual's behaviour and group behaviour doesn't seem to have changed over the year although males are less aggressive. In cases of aggressive or over-dominant males, a higher dose of the implant has been found to reduce aggression. Most coalitions are siblings although unrelated cheetahs can be habituated to form a group - this is beneficial as it means fewer camps are needed and therefore the cats can have a bigger area to share.



CONSTRAINTS AND CHALLENGES

- The annual health examinations require a large team of veterinarians, veterinary technicians, and other personnel. The accommodation and transport of these people as well as the cost of anaesthetic drugs, consumables, and equipment create a significant financial burden for AfriCat in the absence of major research funding.
- The transport of temperature-sensitive samples to laboratories in South Africa still has to be improved.
- The lack of intensive handling facilities such as holding cages within the animal enclosures as well as the habituation of the animals to such facilities, limits the range of research which may be undertaken at AfriCat. It also means that animals generally have to be immobilised, even for minor treatments and sample collection.
- Although the AfriCat staff are well-trained, there are no dedicated veterinary staff present onsite to collect samples and treat sick or injured animals, or to perform detailed post-mortems on deceased animals.

FUTURE PLANS

The 2014 annual health checks will take place between 30 June and 10 July. This year a team from the Faculty of Veterinary Science at the University of Pretoria will be performing laparoscopic sterilisations on the female cheetahs at AfriCat. This will be done in order to comply with statutory requirements instituted by the Namibian government to prevent the captive breeding of large carnivores in Namibia. The laparoscopic technique is expected to result in far less trauma and stress to the cheetahs. Detailed research will be conducted on the impact that the surgery may have on the animals. During the 2014 health checks, in addition to the standard samples and data collected, gastric biopsies will also be collected from each cheetah under general anaesthesia, in order to evaluate the level of gastritis in the population. Ultrasound examinations will also be conducted to measure the size of the cheetahs' kidneys as well as to document any pathological changes which may be present. A veterinarian from the Royal Veterinary College in London will be evaluating the cardiovascular dynamics and blood pressure changes in the anaesthetised cheetahs using high definition oscillometry (HDO) and pulse wave analysis for her MSc degree under the supervision of Dr. Tordiffe.

The construction of holding cages in the cheetah enclosures and the habituation of the animals to these facilities is expected to take place in 2015. This will expand the research opportunities at AfriCat. A Microsoft Access database has been created to capture the large amount of data on each individual animal at AfriCat. Once the findings of the metabolic profiling study have been published in 2014, it is expected that more directed research would be possible in 2015 to build on these results.

The research veterinarian will manage six ongoing research projects:

- 1) The AfriCat Communal Carnivore Conservation Programme;
- 2) Rehabilitating captive cheetahs and the success rate of rehabilitation;
- 3) Carnivore research;
- 4) Namibian Wild Dog Project;
- 5) The AfriCat Hobatere Lion Research Project;
- 6) The AfriCat Predator and Prey Population Density Study in the Okonjima Nature Reserve.

A suitable vet has been identified and is available to start in 2014. The vet will support the Hobatere Lion Research Project & the Namibia Wild Dog Project, as well as lead the research in the 20,000 hectare Okonjima Nature Reserve on carnivore density studies. The vet will also head the annual veterinary checks and be in charge of all of the animals at the AfriCat Carnivore Care Centre (see below). Having a full-time vet will enable AfriCat to greatly accelerate implementation of its activities.

Programme 2: Carnivore Care

OBJECTIVES

As detailed in Section 1, AfriCat initially operated only a Rescue and Release Programme, which developed as a result of the Hanssen family's relationship with the local farming community. Through this programme, more than a thousand carnivores were rescued from farms where they would have otherwise have been killed, and over 85% of them were released where they would not be persecuted. Those that could not be released entered AfriCat's Carnivore Care Programme.

AfriCat currently holds 17 cheetahs in its care that are young, fit, and wild enough to be part of the Rehabilitation Project (see Programme 3). There are, however, 21 cheetahs, 4 leopards, and 4 lion too old or tame to go back into the wild. These individuals are going to live out their lives under the expert care of the AfriCat team and continue to be "**ambassadors**" for their wild counterparts. **AfriCat's Carnivore Care Centre** aims to provide a healthy living environment for the large carnivores in temporary or permanent captivity and to minimise illness and injuries as

Assisting Research: Keeping large carnivores in captivity in Namibia requires a Permit from the Ministry of Environment and Tourism. One of the conditions of this Permit is that a veterinary inspection is carried out once a year. As discussed in Programme 1, the annual health examinations of the cheetahs at AfriCat give invited specialist veterinarians the opportunity to conduct research on various aspects of animal health, particularly those relating to the health of large carnivores in captivity. As well as providing expert information on the health of AfriCat's animals, the examinations also allow for the comparison of results with similar studies being conducted on large carnivores in other captive facilities across the globe. Some of this information can also be used to gain insight into the health of large carnivores in the wild. On-going collaboration with scientists and the conservation authorities and working closely with the farming community allows for studies to be conducted that provide valuable information on large carnivores and their long-term conservation in Namibia. Researchers have been involved in a number of studies involving captive cheetahs at AfriCat's Carnivore Care Centre <http://www.africat.org/program/research>

AfriCat continued to collect blood and urine samples of all cheetahs and leopards captured on farmland and released back into the wild, to add to the existing collection of samples started when AfriCat first began operating 21 years ago. These samples are available for research and analysis.

Conservation through Education: The animals in AfriCat's Carnivore Care programme support conservation through education – local school children who are unfamiliar with wild animals are able to see these animals at close quarters and learn to appreciate their beauty and value. The animals in captivity at AfriCat provide opportunities to increase awareness of their wild counterparts and their conservation priorities to the children at the Education Centres as well as to foreign visitors to Namibia.

AfriCat started out with a mission statement to "keep wild cats wild", hence 'A free Cat'. Concentrating on Adult and Youth Education, initiating wild cheetah research and evolving the Rehabilitation Project to such an extent that it becomes a worldwide model for Reintroduction, are all in keeping with that early statement.



MAIN ACTIVITIES

2011/12 saw the start of a 3-phase project to upgrade the whole Carnivore Care Centre. New government regulations require that all captive large carnivores accessible to the public must have a buffer fence 1.2 meters high and 1.5 meters away from the enclosure, and all cheetah enclosures should also be electrified. AfriCat's 3-phase project to upgrade the whole Carnivore Care Centre therefore included the following:

- Phase 1: Upgrade of the AfriCat Information Centre (2011 and 2012), the creation of a new AfriCat website (2011 and 2012), and the release of 5 rehabilitated cheetahs into the AfriCat Nature Reserve (June 2012).
- Phase 2: Upgrade of the AfriCat clinic (June 2013) and completion of the AfriCat office complex (July 2012). Completion of the AfriCat Day Centre for day visitors (Aug 2012).
- Phase 3: A complete, new design and lay-out of all the enclosures and the construction of 7 hides to improve the living conditions of all captive carnivores and enhance the environmental education experience for visiting scholars and guests (started: June 2011; to be completed by the end of 2014).

MAJOR ACHIEVEMENTS

The first stage of the new and improved AfriCat Information Centre and the new veterinary & research AfriCat clinic were completed in 2012 and 2013 respectively. These have greatly facilitated the work of the AfriCat Foundation, including enabling Okonjima guests and school education groups to learn about the work of the Foundation and providing improved facilities for the annual veterinary health check referred to in Programme 1 and below.

A successful health check was undertaken in 2012 and the first-ever 10-day annual Health & Research veterinary check in 2013. The veterinary checks fully evaluated the health of all captive animals in the Carnivore Care Centre. The veterinary checks addressed identified problems and also contracepted animals, as necessary, to avoid births in captivity.

AfriCat was able to purchase a tractor in 2013 to keep all camps cleared, clean, and to reduce the risk of fire. Captive lion and leopard enclosures were also completed, including 1 of 4 leopard hides and 1 of 3 lion hides. The remaining hides will be built in 2014. The 'ADOPT A CARNIVORE' website project <http://wwwafricat.org/support/adopt-a-carnivore> was completed. This project is already bringing in much-needed funds for the care of AfriCat's captive carnivores.

CONSTRAINTS AND CHALLENGES

Running costs for keeping captive carnivores fed with a well-balanced diet and vitamin and mineral supplements to prevent deficiencies have significantly increased. This has increased the financial burden on AfriCat and reduced the availability of funds for other Programmes such as Education and Research.

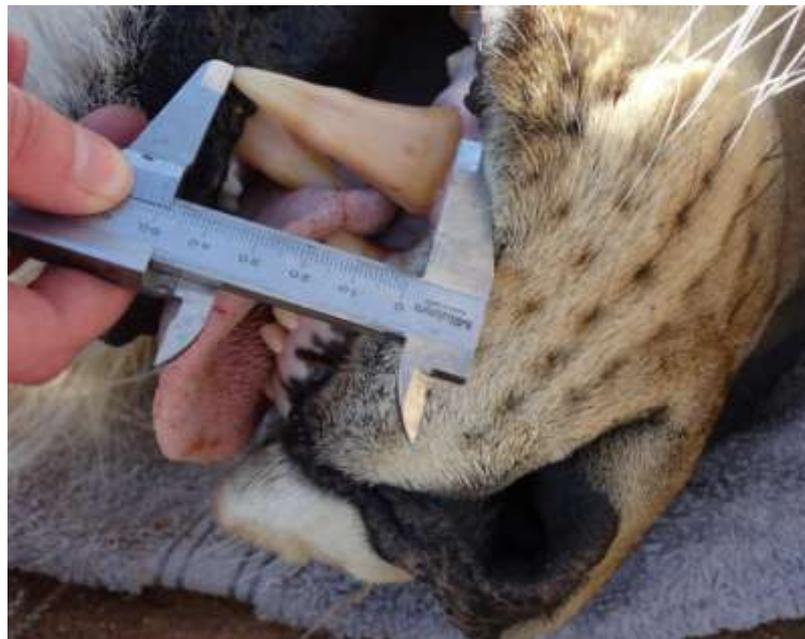
The animals at AfriCat are housed in spacious enclosures of between 12 and 50 acres in a natural, stress-free environment, but the high rainfall during the past few years had presented new challenges: (i) dense bush encroachment and high grass which present a fire hazard, and (ii) an influx of cheetah-flies (genus *Hippobosca* - family *Hippoboscidae*). At other times of the year, drought conditions caused havoc when hungry warthogs forced themselves into the Carnivore Care Centre enclosures and injured several cheetahs, fatally killing one.

FUTURE PLANS

In 2014, improvement of the carnivore enclosures will be completed. In addition, small, attached catch-camps will be built alongside each enclosure to improve research opportunities. An extension to the Information Centre, Research offices, and a lecture/presentation room will be built, and the 3 remaining leopard hides and 2 lion hides will be completed. A grass-cutter will be purchased to help in maintaining the enclosures.

Once funding can be secured, AfriCat would like to install a specially-designed cheetah exercise lure-system from the United States of America. This lure will be a fantastic way to keep the cats at the Carnivore Care Centre fit, and also serves as a great education tool for visitors, both children and grownups, to see the cheetahs at full speed, doing what nature intended them to. There are a variety of different excursive lures on the market, but the desired one consists of a simple motor and a casing covering the rope & pulley-system, which is nailed to the ground. The string/rope to which the 'fluffy lure' is tied, is embedded into the casing, to prevent it from cutting the legs of the cheetah when running at full speed. It was initially designed for greyhounds, but also works very well for cheetahs. The lure is made of a soft material, which will not injure the cheetahs' wrists or claws, which is an improvement over the currently available South African lures. In addition, this activity could be included in the Okonjima guest activity programme, whereby tourists could observe this lithe animal and be enthused to support AfriCat's cheetah programmes.

An AfriCat merchandise shop website project will be completed and AfriCat will employ 2 junior administrators to deal with the administration demands of sponsor support and the database.



Programme 3: Environmental Education



AfriCat has discovered that, for many Namibian children and adults, the AfriCat Environmental Education Programme is their first camping and outdoor educational experience. Few have had the opportunity to visit wildlife reserves, observe antelope and wild large carnivores, and to experience the natural wonder of their own country. Neither have they been introduced to the vocational opportunities which tourism visitation, hand-in-glove with conservation, offers. AfriCat has advocated environmental education since 1998 and acutely recognises the urgent need to offer as many learners, of all ages, exposure to the enormous challenges facing Namibia's increasingly fragile natural heritage, and offering constructive solutions and an alternative path to the present one taken.

AfriCat provides Environmental Education programmes for the youth of Namibia so as to hopefully guide them towards a greater understanding of the crucial importance of the natural world and of wildlife conservation.

The main objective is to promote **holistic** environmental awareness among Namibian youth with emphasis on the role of Namibia's large carnivores.

The programme has already reached over 25,000 children and young adults at AfriCat's two Education Centres and through its Outreach Programmes.

After many years of working with the farming community, it became clear that youth education was vital to the long-term conservation of large carnivores.

The AfriCat Environmental Education Programme aims to inform and empower Namibia's youth about large carnivores, conservation, and the Namibian environment through an experiential learning opportunity.

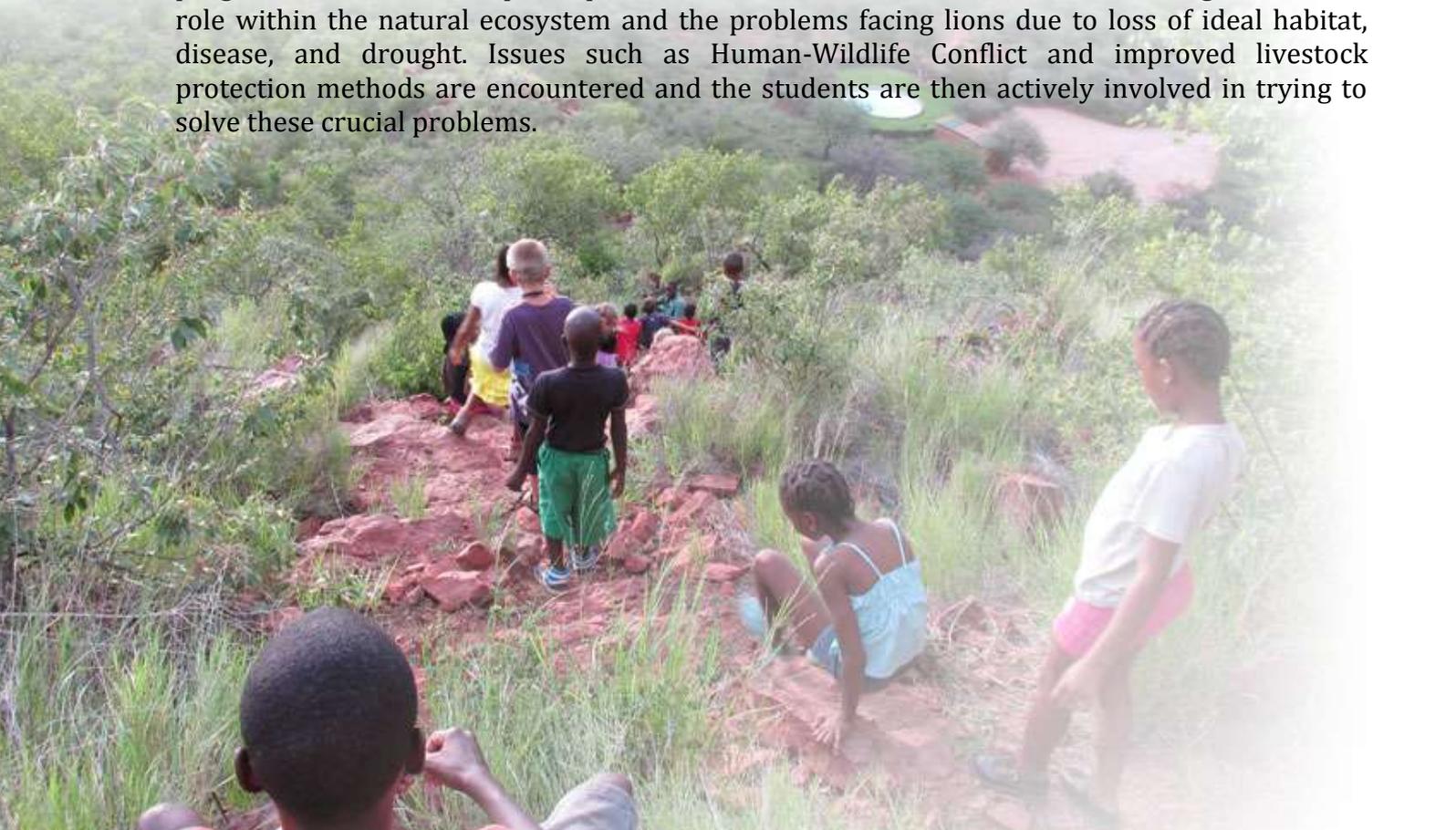
OBJECTIVES

The objectives of the Environmental Education Programme, based on the 1997 UNESCO-UNEP Environmental Education objectives, are as follows:

- To develop holistic, environmental awareness, sensitivity, knowledge, attitudes, and values among Namibian youth.
- To promote all aspects of sustainable living.
- To emphasise the importance and responsibility of each individual to contribute to the conservation of the environment.
- To increase knowledge and understanding of Namibia's large carnivores showing that they are an integral, essential, and magnificent part of the Namibian ecosystem.

AfriCat's Environmental Education Programme aims to achieve these objectives by:

- Providing fun and interesting environmental education camps ranging from 2 – 5 days, based at the AfriCat Environmental Education Centre or the AfriCat North Wilderness Camp.
- Utilising the AfriCat Information Centre and the non-releasable cats as carnivore 'ambassadors'.
- Utilising the Okonjima Nature Reserve and/or Northwestern Namibia to enjoy and experience nature; to see and learn about the fauna and flora of Namibia.
- AfriCat North programme: Youth of all ages are encouraged to become involved in this programme, where active participation enables them to learn more about lions in general, their role within the natural ecosystem and the problems facing lions due to loss of ideal habitat, disease, and drought. Issues such as Human-Wildlife Conflict and improved livestock protection methods are encountered and the students are then actively involved in trying to solve these crucial problems.



MAIN ACTIVITIES

The choice of activities employed by each environmental education camp varies considerably depending on the age, size of the group, ability, whether a school class or a club, specific requirements of the group, and the chosen location. Possible activities include:

Nature walks and mountain hikes: Seeing, feeling, basic survival skills in nature e.g. learning to dig for water in the 'dry' river beds; learning to appreciate Namibia's beauty. Topics discussed while on trail: tracks and tracking, animal behaviour, cultural appreciation, bush encroachment, useful trees and shrubs, insect colonies (e.g. termites), birds, common bush-sounds, river systems, erosion, and general topics of ecological concern.

Sunrise walks and incorporation of life skills: Experience the dawn and understand the importance of exercise and balance, i.e. all things in moderation (mind, body, and soul development). Throughout the course there is incorporation of life skills that can be learned from nature, e.g. the large spider on the "Education Wall" at the AfriCat Information Centre symbolises how much a small individual can accomplish through perseverance. If disaster strikes (web breaking), it is important to pick oneself up, re-use skills or talents, and start again (spider re-using web and rebuilding, time and time again if necessary).

Game drives in the 20,000 hectare Okonjima Nature Reserve: On these drives students can experience for themselves one of Namibia's main tourist attractions i.e. game viewing. The experience is in itself a novelty, let alone being able to actually see the animals close up and for the first time in many cases. The topics discussed are similar to those on nature walks, as stated above. Depending on the length of the course, the students observe the behaviour and particular habitat of each animal so that they can then make their own deductions regarding its particular niche in the ecosystem. Some of the activities on the game drives are as follows:

- Game counts on the first cleared area in the Okonjima Nature Reserve known as "Serenjima Plains".
- Breakfast in the bush, usually at a dam where one finds many smaller creatures to study in a different mini-ecosystem.
- Using radio telemetry equipment to track carnivores in rehabilitation. Fortunate students are able to observe some carnivores hunting their natural prey.
- Bush Clearing. The younger children usually work on the re-growth, while the more senior students can tackle the bigger invaders.
- Clearing of old fence lines, especially any stakes or tangled wire.

Sessions at the AfriCat Carnivore Information Centre: The AfriCat Information Centre has huge visual displays covering a large number of topics, e.g. skulls, skins, bone, full animal mounts. These topics are discussed, including the research undertaken by visiting veterinarians at the AfriCat Foundation. Explanations are given of the 'EE Wall' which is the side wall of the new clinic. The art on this wall acts as a summary, a teaching tool, or a reminder of the essence of this programme.

'Under Canvas' or 'Under Trees' class sessions: The main discussion focuses on the 6 large Namibian carnivores still found on farmland. The sessions look at those carnivores which have already been eradicated on commercial farmland, as well as those which are still surviving, and consider ways to maintain such existence. In particular, differences between leopards and cheetahs, both physical and behavioural are evaluated. There are also discussions regarding carnivores as indicators of ecological stability; where humans fit in; what can be done; and other discussions/presentations, with as much student involvement as possible include over-population, global warming, urbanisation, consumerism, energy inefficiency, pollution, and loss of biodiversity.

Time spent studying carnivores up close at the Carnivore Care Centre: Learners have the opportunity to see leopard, lions, and cheetahs in large, natural enclosures. This gives the students time to really notice their amazing adaptations and magnificence (absolutely no physical contact permitted between students and animals).

Night walks: Experiencing the wonders of the night sky; identification of nocturnal animals and insects; identification of nocturnal sounds; walking and experiencing using other senses; experiencing real darkness (which is now so rare for most youth residing in urban settings) and, for many, overcoming fear of the dark by being encouraged to push themselves out of their comfort zone; basic planet constellations and stargazing.

Sustainable living activities: Solar cooking, recycling, compost making, tree planting, utilising natural wild vegetables etc.

Educational games: 'Run like a Cheetah' and 'Stalk like a Leopard'. This involves wearing the radio collars, then hiding from fellow students who then have to find their 'collared' colleague by using telemetry equipment.

Hands on activities: e.g. kraal building, bush clearing, erosion control, fence clearing.

After class activities: Swimming, reading, relaxing in the wild with no modern technology – with only nature as entertainment.

AfriCat North: Certain programmes incorporating higher education or adult education also include a 3-7 day trek on communal farmland, meeting farmers and traditional leaders, as well as physical work assisting the Ministry of Environment & Tourism (MET) and farmers repair sections of the Etosha fence. This experience gives the students detailed insight into the complexities of Human-Wildlife Conflict and AfriCat North's mitigation programmes. Students may also camp in the 'wild' and gain first-hand experience of lion immobilisation and FIV-testing (Feline Immuno-deficiency Virus). Since 2010, youth groups from Namibia as well as from overseas have participated in the on-going HWC Mitigation & Community Support programmes by repairing fences, building nocturnal kraals to improve livestock protection, uplifting community schools by erecting water tanks, laying pipelines, and developing playgrounds and sports fields.

Rare Endangered Species Trust: Education camps at AfriCat may also visit the neighbouring foundation, Rare Endangered Species Trust (REST), to see the amazing work they are doing for the conservation of vultures, other birds, and animals.



MAJOR ACHIEVEMENTS

In the latter part of 2012 TUSK Trust awarded AfriCat a grant for a full time Environmental Educator. At the end of 2012 A.J. Rousseau was appointed to the position, for a start in March 2013. TUSK has generously continued to support the funding of this position for the second year running, i.e. into 2014. In addition, AfriCat has benefited from a GIZ supported volunteer. Lara Kiesau of the Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ) started on 15 August 2012 and remained with AfriCat until 15 July 2013. On 13 August 2013 a new volunteer, Annika John, arrived from Deutsch-Sudafrikanisches Jugendwerk (DSJW) and will remain until August 2014.

The Environmental Education programme's main aim for 2013 was to get the news "out there" that the programme was available and active in a full-time capacity, as well as to update and lengthen it. This, it is felt, was achieved, but there is also recognition that this is an ongoing exercise.

The Environmental Education programme's coordinators attended two environmental education courses being held at the two other main active Environmental Education Centres: i) Gobabeb, which is the Namib Desert base of the Desert Research and Training Foundation of Namibia, and ii) Namib Desert Environmental Education Trust (NaDEET), based in the Namib Rand Private Reserve. These visits were undertaken with a view to understanding how these courses were run and what their emphasis was. AfriCat feels that, in order to improve environmental education in Namibia, centres across Namibia need to work together, without too much repetition of course curriculum.

In 2013 the AfriCat Environmental Education Centre at Okonjima was moved to a more rustic, larger, and better-equipped location, currently called the PAWS Centre (People And Wildlife Solutions), which will accommodate both school children and adult education. 2013 also saw the development of the new AfriCat North base with the opening of the Environmental Education Wilderness Camp scheduled towards the end of 2014.

All school groups are encouraged to come for at least a 4 day programme as it is felt that anything shorter is insufficient (although many groups did still come for shorter periods, usually school clubs or after-hours assistance groups). Students have come from all over the central, western, and northern parts of Namibia as well as from overseas. The AfriCat Environmental Education Centre has just hosted "The Traveling School" from the USA. The Centre has welcomed pupils as young as Grade 1 (though this is not the norm!) up to Teacher's Workshops (these so that, indirectly, more pupils are reached). The programme has been frequently adjusted to cater for the different requirements of each group.

A.J. Rousseau and Helen Newmarch attended the Namibia Environmental Education Network (NEEN) Conference held at the Waterberg Plateau Park in May 2013, which proved to be very effective promotion of the AfriCat Environmental Education Centre. Visits were made to a number of schools in Otjiwarongo, Omaruru, and Windhoek to promote the programme. A great deal of interest was expressed.

The year ended with two special camps: the "Return Camp" where promising and high achieving students were invited back, followed by the AfriCat Christmas Camp for Mammadu Children's Home from Windhoek.

During 2013, twenty different schools/school clubs visited the Centre (a total number of 692 students), some of which brought 3 different student groups. During 2012, without an environmental educator, only 220 students visited; this number includes groups which went to AfriCat North to build kraals.



CONSTRAINTS AND CHALLENGES

In 2012, the AfriCat Environmental Education Programme was constrained by staff shortages, limited transport, and the relocation of the AfriCat North base. Despite these challenges, 4 groups participated at AfriCat (75 children), and 145 students at the AfriCat North Base.

The main constraint has been a shortage of transport for educators to use on a daily basis, as well as for the implementation of the Outreach Programme to distant rural schools. As the AfriCat Environmental Education Centre is now 6kms away from the main AfriCat office and staff accommodation area, there is requirement for a quad bike for junior staff to use for their daily work.

FUTURE PLANS

In 2014 there shall be a focus on achieving a good balance between all age groups, as well as between rural and urban Namibian schools. There is also the ambition to host a larger number of foreign schools (overseas and regional) as, on account of being self-funding, they bring much needed funding to the programme. This will facilitate the hosting of schools and organisations which cannot fund their own participation. Once necessary transportation means are secured, there will be an acceleration of the implementation of the Outreach Programme.

AfriCat has also applied for a Peace Corp Volunteer teacher. This is a two year programme, instead of one year and the designee would be a qualified teacher.

The new AfriCat North Environmental Education camp is still under construction and development, but it will hopefully be operational by mid-2014.

There is intent to extend the Adult Education Programme to include Environmental and Nature Conservation students from the Polytechnic of Namibia and Education Faculty students from the University of Namibia, community farmers, and community game guards.



AfriCat also plans to maintain the interest and support of participants in AfriCat's Environmental Education camps once they return to school by encouraging them to continue to support AfriCat's activities through one or more of the following:

- They can support AfriCat by either 'Adopting-a-Carnivore' as a class or as an individual;
- Engage their colleagues and friends to conduct a joint fund-raiser to raise donations and awareness for AfriCat's Environmental Education Programme;
- Hold competitions, run a marathon in AfriCat's name, swim for AfriCat, play football for AfriCat, arrange a jumble sale, an auction, and other fun events to motivate their fellow students and friends to raise donations for AfriCat.

"In the end, we conserve only what we love. We will love only what we understand. We will understand only what we are taught"

Baba Dioum (Senegalese environmentalist)

Programme 4: Rehabilitation, the Okonjima Nature Reserve, and Rescue and Release

OBJECTIVES: REHABILITATION

AfriCat's Cheetah Rehabilitation project was initiated to give captive cheetahs an opportunity to return to their natural environment. Although hunting in carnivores is instinctive, many of the cheetahs at AfriCat lack experience due to being orphaned or removed from the wild at an early age. This inexperience, as well as their conditioning to captivity, makes these animals unsuitable for release on farmland. The cheetahs (usually a coalition of brothers and sisters) are fitted with radio-collars before their release into the 20,000 hectare Okonjima Nature Reserve, so that their welfare and progress can be closely monitored. Rehabilitated cheetahs are not released on farmland.

Besides giving the cheetahs a chance to return to the wild, the success of this project provides other substantial benefits, as it gives AfriCat the opportunity to assess whether rehabilitation is a successful means of conserving an endangered population and it also allows for the number of cheetahs in captivity to be reduced.

OBJECTIVES: OKONJIMA NATURE RESERVE

The objective is to turn the 20,000 hectare Okonjima Nature Reserve, once denuded and eroded farmland, back to its natural state, by optimising the herbivore population and the related carnivore density, in order to underpin this Nature Reserve's sustainability. The symbiotic relationship which exists between the AfriCat Foundation and the Okonjima Nature Reserve is imperative. Without education, research, and the mitigation of farmer-predator conflict throughout Namibia, the essential conservation of large carnivores would falter; and without the substantial financial support offered by foreign visitors, who stay in the Okonjima lodges, neither would survive. This mutually beneficial relationship enables interested visitors to experience, first hand, the work of the AfriCat Foundation, gaining valuable insight into carnivore conservation and, at the same time, creating the platform for donating much-needed funds to the AfriCat Foundation and its programmes throughout the whole of Namibia: Environmental Education, Carnivore Research, Rescue-Release & Rehabilitation, Carnivore Care, and Human Wildlife Conflict Mitigation and Community Support.



The 20,000 hectare Okonjima Nature Reserve was established with a 2.2 metre-high electrified, 98km long, perimeter fence to control predator movement, enabling research to monitor predator movement and density studies within an 'island-bound' conservation wilderness. The main reason for fencing the Reserve is to establish a protected environment for the AfriCat Rehabilitation Project (and Rescue & Release Project). It will certainly take time for the AfriCat Environmental Education Programme to have the desired effect on people dealing with carnivores on open farmland. Because most captive carnivores have lost their natural fear of humans, the cheetahs released into the Reserve would be shot by neighbouring farmers, if it was not fenced. It would not be possible to achieve the objectives of the Rehabilitation and Education Programmes in this Reserve, if there was the chance that they could leave the protection of the Reserve and be shot on neighbouring farms. The presence of 'tame' carnivores on adjacent farmland would have resulted in increased, indiscriminate shooting of these animals and, with the increased number of antelope moving from the Reserve onto neighbouring farms, the hunting thereof for meat would also have increased. Thus, these programmes are undertaken and monitored within the Reserve borders, with the removal and addition of prey species as necessary for the purpose of research and equilibrium.

The enclosed wilderness area is also part of a project to prove to farmers that one can farm alongside carnivores and that they do not adversely diminish populations of indigenous game. Research has shown that the Okonjima Nature Reserve has up to 3 times the number of carnivores normally occurring in a fenced area of this size.⁸ Even with these high predator numbers, over a period of 13 years, the game numbers increased annually. This has proven that increased predation stimulates reproduction.

OBJECTIVES: RESCUE AND RELEASE

AfriCat works closely with communal and commercial livestock farmers, trying to assist in alleviating some of the losses from predator intrusion. Since 1993 AfriCat has rescued over 1,080 cheetahs, lions and leopards on Namibian farmland. Over 85% of these animals have been returned to the wild. However, the animals were released into new territories, belonging to others. In their 'new territories' they needed to either fight for their new home or 'run the gauntlet' of the farmers' traps and guns, back to their former territory. AfriCat is, therefore, entirely uncertain as to how many of the released carnivores survive this re-location. AfriCat has therefore curtailed the nationwide Rescue and Release Project and at present only release into the Okonjima Nature Reserve, or back into the same area in which the carnivores were captured.

MAIN ACTIVITIES

- Monitoring the dynamics of 4 different rehabilitated (previously captive) cheetah groups in the Okonjima Nature Reserve.
- Monitoring 4 rehabilitated (previously captive) Wild Dogs in the Okonjima Nature Reserve, focusing on the recovery and capability of 2 injured dogs.⁹
- Collaring leopard and brown hyena within the Okonjima Nature Reserve as part of the leopard and hyena density study.
- Re-collaring the territorial, identified male leopards and spotted hyenas with newly fitted collars incorporating updated technology.
- Monitoring 2 territorial female leopards which both gave birth to cubs in 2013 (14 year old MJ: 4th litter, 6th cub and 3/4 year old Electra: first litter – 2 cubs).
- Treating injured territorial male, Nkosi and territorial female MJ, following territorial fights with other leopards.

⁸ Ref Wayne Hanssen, 2012

⁹ Unfortunately one Wild Dog was killed by a giraffe in January 2014

- Rescued two cheetah cubs found close to death on the saltpans south of Swakopmund (21 Nov 2013).
- Rescue of a female Okonjima Nature Reserve leopard which had escaped out of the Nature Reserve onto adjacent farmland.
- Rescue of one of Penta's 5 cubs, lost for 14 days, and reintroduction back with the family.
- Opening up new plains by clearing bush within the Okonjima Nature Reserve to return it to the way it once used to be before damage by cattle, erosion, and bush encroachment. A 'Skid Steer loader with circular blade' (brand: GEHL) was purchased to cut down invasive vegetation without destroying sensitive grassland.
- Creation of a 2,000 hectare 'safe area' within the 20,000 hectare Okonjima Nature Reserve. The 2,000 hectare safe area is a fenced area within the Reserve which has no large carnivores. It is the location of the Okonjima lodges and creates the opportunity for long-term research on prey-density and grassland science in a low to zero predator populated environment. It also allows for the Environmental Education programme to conduct nature walks in a 'safe area' where no rehabilitated carnivores have been released.
- The removal of a few 'dangerous corners', where cheetahs were being trapped by hyena or leopard.
- Drilling of 7 boreholes, of which 3 were successful, as a part of a programme to better distribute game throughout the Reserve by creating more water sources.
- The installation of 5 Vivotek cameras to improve the carnivore capture procedures. These cameras enable monitoring of captured animals and ensures the capture of only targeted species and specifically targeted individuals. The cameras also facilitate gate closing remotely and, as such, darting of a captured animal within a very short period of time, as little as 15 minutes, of capture, so as to minimise their stress.
- Radio collaring of 6 more leopards, which brings the count to 10 collared leopards, for the Leopard Density Study.
- Placing cameras at key waterholes, for the trial stage of the Herbivore Population Monitoring Project.
- Purchase of a Gyrocopter to be able to conduct proper game counts, thereby giving a better indication of game population numbers, which have been mere estimates based on extrapolation in the past.
- Opening up a further 15 km of bush tracks, to gain access to drainage lines that are frequented by leopards. This puts the total of road infrastructure in the Reserve to more than 300 km.

MAJOR ACHIEVEMENTS

- Survival of 4 different rehabilitated (previously captive) cheetah groups in the Okonjima Nature Reserve:
 - The SIBLINGS (released May 2010, still alive although Spud was injured early 2014);
 - TONGS (released Aug 2010, killed 3 years later protecting her first litter of cubs);
 - PENTA and three cubs (released June 2013 with 5 cubs, but two were killed shortly after release);
 - DIZZY (released June 1012, still alive).
- Birth of the first cheetah cubs in the Okonjima Nature Reserve. DIZZY gave birth to 3 cubs on 16 April 2013. One cub was killed by a leopard and another went missing after she came into contact with a cheetah coalition (2 siblings, 1 male & 1 female, and 1 male not related, but part of the group), but she is proving to be an excellent mother to the 3rd cub who is a year old now.
- Witnessing the first training of cheetah cub during a joint hunt by mother and cub, proving that a rehabilitated, successful cheetah has all the instinct needed to live a natural life in the wild (Dec 2013).

- Opening up 400 hectares of plains, by removing invasive bush, as part of a 7,000 hectare project to re-introduce springbok, which once roamed this area. This will greatly improve the prey base for the AfriCat Cheetah Rehabilitation Project.



CONSTRAINTS AND CHALLENGES

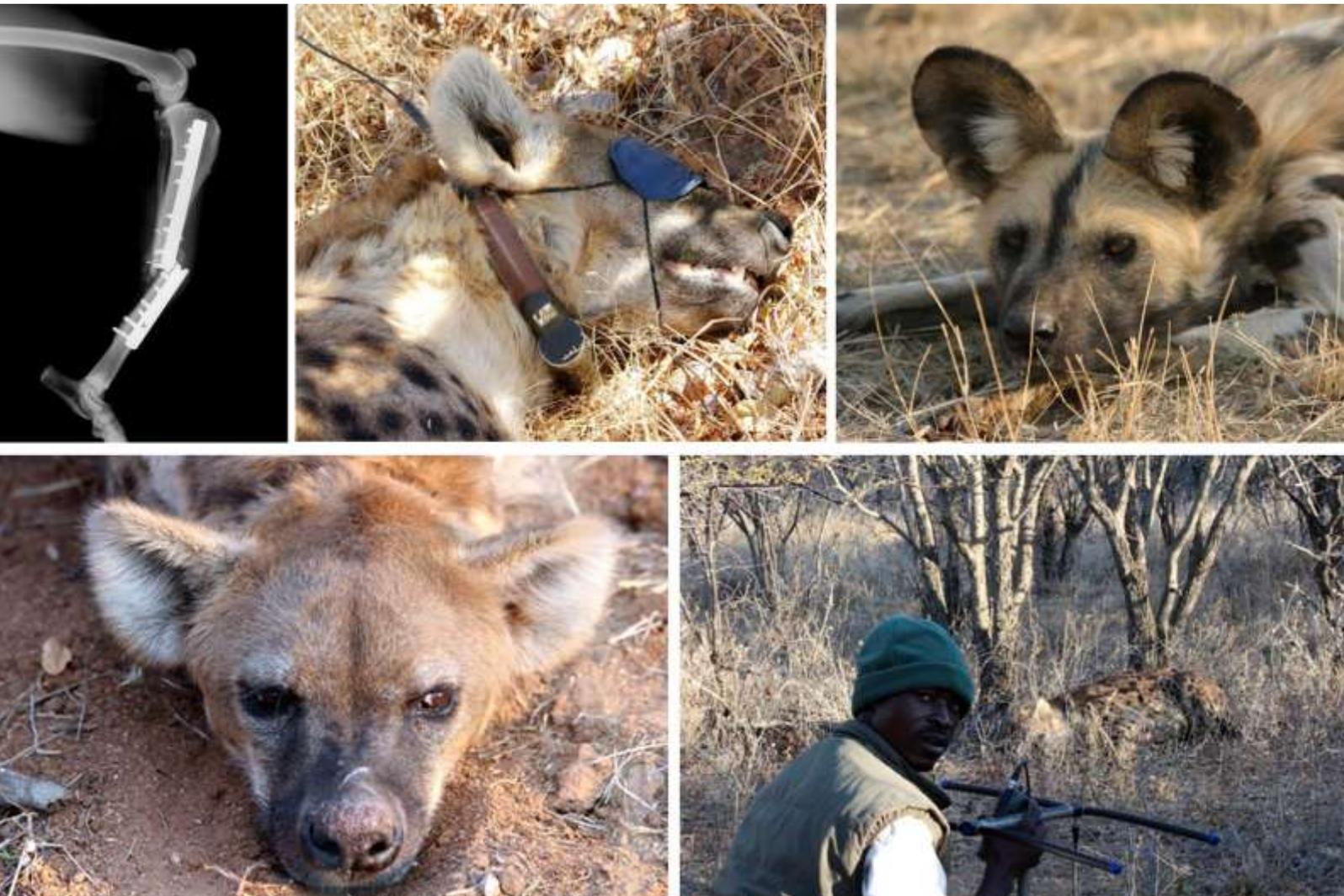
The leopard population in the Okonjima Nature Reserve is possibly saturated. Thus, all future progeny will increase territorial pressure within the Reserve. Contraception may have to be introduced as a new way of humanely controlling carnivore numbers within this environment. At the same time, improved habitat for cheetah to hunt is needed and to enable the rehabilitation of more cheetah. AfriCat therefore intends to open up the bush-encroached areas, bring in small prey species such as springbok and more impala, and decrease leopard numbers through relocation. This will create more areas suitable for cheetah. As mentioned in Programmes 1 and 2, funding is needed for a research veterinarian who will oversee research in the Okonjima Nature Reserve. Funding is also needed for the following Reserve projects:

- Maintenance/upkeep and daily monitoring of the 98km perimeter fence line;
- Maintenance/upkeep of the 300 km of gravel roads inside the Reserve;
- Maintenance/upkeep of the gyrocopter used for game counts, carnivore monitoring, and anti-poaching;
- Maintenance and fuel for the earth-moving equipment used to create the 'open plains';
- Constant removal of invasive bush to create at least 7,000 to 10,000 hectares of open plains for introduction of more game. This will greatly enhance the AfriCat rehabilitation projects;
- Introducing more preferred game species like impala and springbok which once roamed these areas;
- Drilling of more boreholes to distribute water points across the Reserve;

- Installing more motion-detection cameras to undertake Reserve census and monitor game counts for the trial stage of the Herbivore Population Monitoring Project;
- Buying more radio-collars for the Leopard and Hyena Density Study.

FUTURE PLANS: OKONJIMA NATURE RESERVE

Work in 2014 will see the continued removal of internal fences and improved management of water points, hides, and roads. More open plains will also be created, which then will create natural habitat boundaries between the different predators, whereby cheetahs should stay more in open plains and the leopards more around riverine thickets. Mechanical removal of bush is preferred as, where there are fewer or no beneficial grasses amongst the encroached bush, this is the faster and more productive way of clearing invader bush. Ultimately, AfriCat is planning, through remedial works, to transform the Reserve's habitat into such a condition that it can be divided into thirds: one third being open plains, one third being woodlands, and one third to be left as riverine thickets. The cheetah's preferred habitat is open plains. Here, their speed and binocular vision give them the advantage over their prey and competitors. In areas where the bush has become too thick the cheetah is at a disadvantage. In such circumstances, other predators such as leopards may very easily stalk and kill a cheetah as the cheetah is unable to see the other cat approaching. Further, without open plains, cheetah are forced to hunt in areas which are typical leopard habitat.





FUTURE PLANS: REHABILITATION

As soon as more open plains have been created in the Okonjima Nature Reserve, and cheetah-preferred prey such as springbok and impala have been introduced, rescued cheetah currently in AfriCat's Carnivore Care Centre will be rehabilitated into the Reserve. They will be monitored to ensure they are adapting to life in the wild and, if necessary, will be supported temporarily in the initial stages. There are currently 17 cheetahs in AfriCat's Carnivore Care Centre waiting to be rehabilitated.

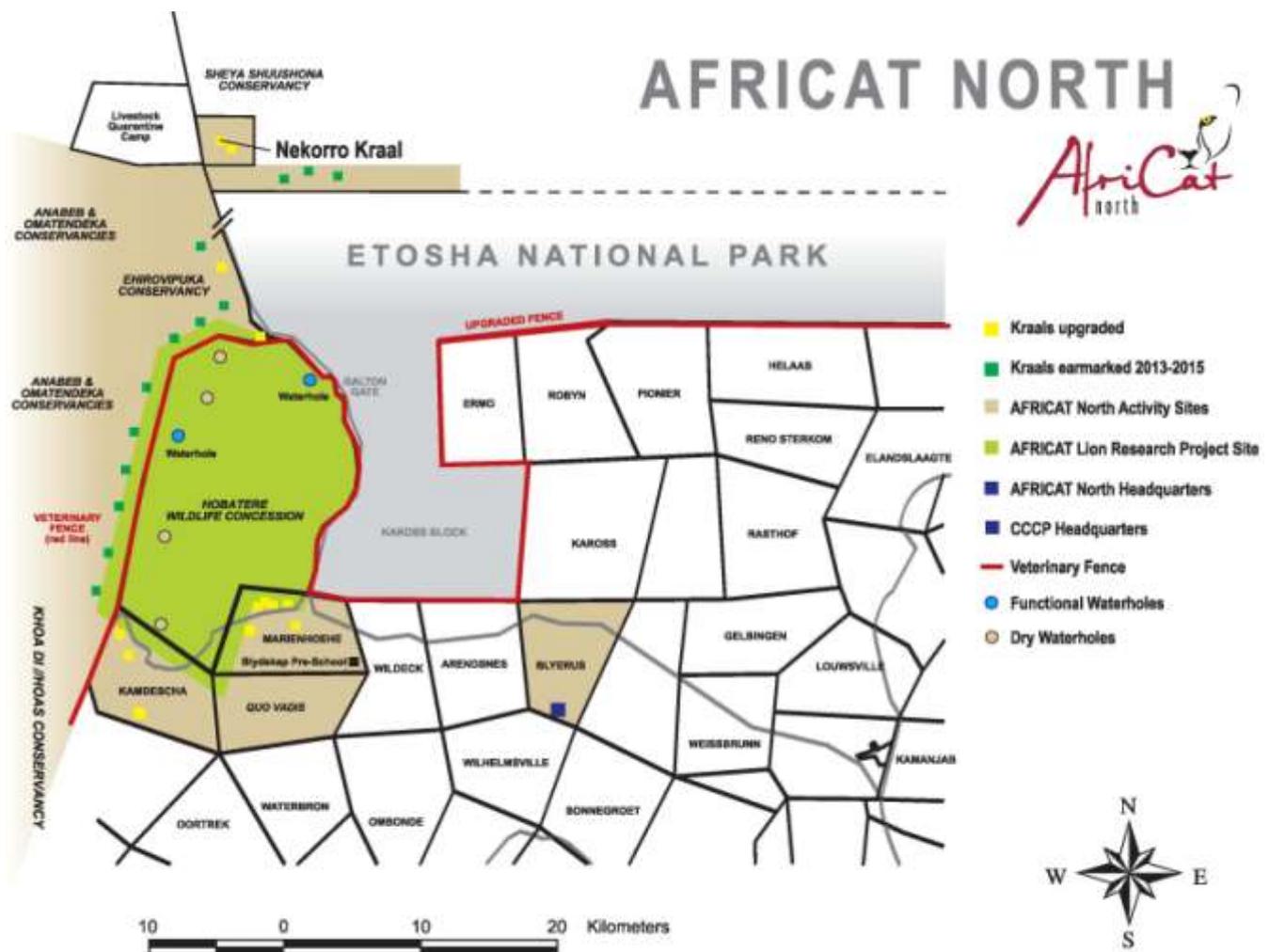
If funding can be secured, a Field Assistant/Junior Researcher will be hired. The hiring of this position will assist the Reserve Manager in ensuring the welfare of all of the rehabilitated carnivores in the Reserve, by monitoring them around the clock during the first 3 months post release. They will monitor the released and rehabilitated animals on a daily basis and maintain a database on their interactions with other animals in the Reserve. This will enhance research efforts and also benefit the newly-released carnivore during the early 'trial and error' stage, which is the time most injuries occur. Funding is also needed for fuel, motion-detection cameras, telemetry, and radio-collar equipment to support these monitoring activities.

FUTURE PLANS: RESCUE AND RELEASE

In 2014, AfriCat would like to spend more time with farmers explaining carnivore movements and the negative implications of removing predators from their property. Interested farmers will be invited to visit the Reserve to see how a high density of leopard can stimulate increases in the prey populations and how electric fencing can stop predator movement and protect livestock. AfriCat will also produce an easy-to-read booklet on predator-proof kraal building and predator-friendly farming methods.



Programme 5: Human-Wildlife Conflict Mitigation and Community Support



OBJECTIVES

To mitigate Human-Wildlife Conflict on farmland, especially with regards to the lion (*Panthera leo*), by educating youth, encouraging adapted livestock management, and conducting essential research and monitoring of wild lion populations. The Programme is operated by AfriCat North, based, as it is on Etosha's south-western boundary, adjacent to farming communities. AfriCat North has, for many years, been directly involved with Human Wildlife Conflict (HWC) incidents on communal and freehold farmland adjacent to the Etosha National Park (ENP), where conflict situations arise when lions leave the confines of protected areas and kill livestock, resulting in large number of lions are killed annually. AfriCat strives to enable local communities to support themselves without endangering the valuable lion population.

MAIN ACTIVITIES

The **Human-Wildlife Conflict & Community Support Programme** falls within the AfriCat Communal Carnivore Conservation Programme (CCCP) and directly supports and up-lifts the communal farming communities along the south-western, western, and north-western borders of ENP. By adapting their livestock management and protection methods, both communal and free-hold farming communities will lose less livestock and, with continued support and education, these communities will subsequently destroy fewer lions. The **Livestock Protection Project (LPP)** runs through the Human Wildlife Conflict and Community Support Programme. It supports affected farming communities to build strong nocturnal kraals and encourages the reinstatement of herdsman in order to better protect their livestock. AfriCat encourages and supports Lion Guardians, selected by the Conservancy Committee, who function as a link between the traditional authorities and the farmers, to lay the groundwork before the Programme begins. Once the communities in conflict have been identified and wish to become involved, AfriCat makes it clear that it will only mitigate such conflict if the communities are prepared to contribute in the form of building teams and, once these kraals have been built, to maintain these structures on a regular basis.



MAJOR ACHIEVEMENTS

A total of four large nocturnal kraals (pens) were built in the Ehirovipuka Conservancy during the period 2012-2013. These farming communities lie in close proximity to the western boundary of ENP, where marauding lions cause high livestock loss. As a result of these kraals, fewer cattle, goats, and donkeys were killed, engendering these communal farmers towards lions. In addition, a number of these farmers were rewarded by government-supported programmes for their improved farming methods and efforts to tolerate large carnivores, some receiving stud bulls to supplement their stock.

Each month, patrols are undertaken by the AfriCat CCCP along the northern and western borders of Hobatere Concession Area as well as along ENP's western boundary (the Human-Wildlife Conflict Mitigation Programme & Community Support runs through the CCCP, sponsored by the Okorusu Fluorspar Mine Community Trust). These patrols monitor lion and uncontrolled livestock movement, reporting any illegal activities such as poaching and the use of poisons to AfriCat, the Ministry of Environment & Tourism and the Police. The patrols are often supported by the Conservancy Game Guards, encouraging greater collaboration between the various non-governmental organisations involved in conservation. Vast distances are covered in order to meet with the affected farming communities, establishing whether the LPP agreements are being adhered to as well as to repair broken sections of the boundary fence. Lion movements are closely monitored during this time in order to warn the farmers of potential conflict.

A village based at the Werda Veterinary Checkpoint does not comply with farming community norms. The inhabitants have suffered high livestock loss as well as threat to human life by lions from ENP and Hobatere. Due to the regular sounds of generators and vehicles and spotlights after dark, the visiting lions have become habituated to this activity. After a number of meetings with the village Chief and the inhabitants, this village was fenced in entirely, allowing for freedom of movement after dark as well as reducing livestock losses.

AfriCat was approached by the Onguta Community to assist in building a new primary school. So far, approximately 50 children have only known a large marquee tent as their school. Last year, after years of battering by wind and weather, two large army tents replaced the marquee and now serve as grade 1-4 classrooms. AfriCat's motto 'Conservation through Education' serves as sufficient motivation to support this community in this request.

CONSTRAINTS AND CHALLENGES

Persecution of lions by farmers has continued unabated. The first drought in years has resulted in large numbers of livestock dying of hunger and thirst, thus livestock losses by predation were less tolerated.

The Livestock Protection Programme faced the challenge of re-modelling the kraal design. The drought conditions forced many farmers to move their cattle to grazing areas further afield, often vast distances from their traditional homesteads and kraals. AfriCat realised the need to design mobile kraals which could be moved to emergency water points and grazing. The mobile kraal has to remain within budget and must be such that the farmers can easily transport the materials from one area to another. AfriCat considered designs adopted from East African programmes, but the high cost of the materials used forced AfriCat to return to the drawing board.

The drought conditions also caused a migration of farmers from one conservancy to another, in search of grazing and water. Thus, the conservancies who had managed to spare their grazing through good management were forced to allow large numbers of cattle and their owners into their areas, creating

confusion and complications regarding poaching and cutting of park fences for cattle to graze in protected areas, naturally exacerbating the farmer-predator conflict.

Lack of sound education amongst the majority of communal farmers, young and old, reiterated the importance of AfriCat's Environmental Education Programmes. Many young men in their early twenties also lack basic qualifications as artisans or farmers resulting in unemployed, frustrated members of these communities who turn to poaching and other forms of criminal activity.

FUTURE PLANS

Due to the onset of drought conditions since 2012, AfriCat is faced with even greater challenges regarding livestock protection as herds roam vast areas in search of grazing and water, often too hungry and weak to return to their base-kraal. Thus, designs for mobile kraals will be finalised with plans to implement innovative programmes as of the first half of 2014. Farmers will be introduced to the new concept as well as designs, whereby certain areas with constant water will be selected for mobile kraals; the main support poles will be permanently cemented into the ground with the movable sections designed to enable the farmers to move them from one area to the next when need arises.

The Livestock Protection Project will benefit from the Hobatere Lion Research Programme, which plans to collar as many lions as possible, depending on sponsorship and donations for GPS satellite collars. As noted, the Hobatere Lion Research Programme will include monitoring of lion movement via GPS satellite, which will provide an early-warning system via text messages to farmers in these conflict zones or 'hot-spots', thus enabling them to better protect their livestock.



III: Budget and Statistics.

The AfriCat Foundation Trust Statement of Financial Position as at 28 February 2013

	2013 N\$	2012 N\$
ASSETS		
Non-current assets	8,885,403	5,181,394
Property, plant and equipment	4,195,994	4,179,825
Investments	4,689,408	1,001,569
Current assets	1,643,277	717,551
Cash and cash equivalents	1,585,686	676,639
Receivables	57,591	40,912
Total Assets	10,528,680	5,898,945
FUNDS AND LIABILITIES		
FUNDS	10,501,021	5,791,635
Opening balance	5,791,635	4,344,643
Surplus/(Deficit) for the year	4,709,387	1,446,992
Non-current liabilities		
Advance from Okonjima Holidays	12,658	107,310
FUNDS AND LIABILITIES	10,513,680	5,898,945

The AfriCat Foundation Trust

Statement of Comprehensive Income for the Year Ended 28 February 2013

	2013 N\$	2012 N\$
Income	7,499,762	3,580,066
Donations	6,894,779	2,594,979
Adoptions	309,219	386,975
ALWG Conference	-	66,131
Activities	-	3,270
Curios	55,531	52,156
Okonjima	93,861	120,000
Film fees	-	-
Interest received	146,372	11,856
Profit on sale of non current assets	-	344,698
Expenditure	2,790,376	2,133,074
Project activity expenditure	1,514,775	1,258,223
Operational expenditure	1,275,601	874,851
Surplus /(Deficit) for the year	4,709,387	1,446,992

The AfriCat Foundation Trust

Statement of Cash Flows for the Year Ended 28 February 2013

	2013 N\$	2012 N\$
Operating activities		
Cash receipts from donors	7,353,390	3,223,512
Cash paid to suppliers for services	2,852,240	2,073,557
Cash (utilised by) operations [note A]	4,501,150	1,149,954
Interest received	146,372	11,856
Net cash (outflow) from operating activities	4,647,522	1,161,810
Investing activities		
Additions to property, plant and equipment	(65,636)	(98,943)
Proceeds on disposal of fixed assets		344,698
Investments (acquired)/repaid	(3,687,839)	(831,183)
Net cash (outflow) from investing activities	(3,753,475)	(585,428)
Financing activities		
Non-interest-bearing borrowings raised /(repaid)	-	-
Net movement in cash and cash equivalents	894,048	576,382
Change in cash and cash equivalents		
Balance at beginning of the year	676,639	100,257
Net movement	894,048	576,382
Balance at end of the year	1,570,686	676,639
The balance comprises:		
Cash at bank	1,493,998	645,328
Cash on hand	91,688	31,311
	1,585,686	676,639

NOTE A**Reconciliation of (Loss)/Profit before taxation to cash generated from/(utilised by) operations.**

	2013 N\$	2012 N\$
Surplus/(deficit) for the year	4,709,387	1,446,992
Adjusted for:		
* Depreciation	49,466	32,533
* Interest received	(146,372)	(11,856)
* Profit on sale of non current assets	-	(344,698)
Operating (deficit) before working capital charges	4,612,480	1,122,970
Working capital changes:		
*(Increase) in receivables	(16,679)	(40,912)
*(Increase) in payables	(94,652)	(67,896)
Cash (utilised by) operations	4,501,150	1,149,954

*Note: The represented figures are an excerpt from the audited financial statements for the year ended February 2013.

