



# RESEARCH

## Founded in 1990,

CCF is a Namibian non-profit incorporated association dedicated to the long-term survival of the cheetah and its ecosystems.

## CCF Vision

To see a world in which cheetah live and flourish in co-existence with people and the environment.

## CCF Mission

To be an internationally recognised centre of excellence in research and education on cheetahs and their ecosystem, working with all stakeholders to achieve best practice in the conservation and management of the world's cheetahs.

CCF's activities include conducting international research, conservation and education programmes to ensure the survival of the cheetah for future generations.

## RESEARCH GOAL

**To provide the scientific support for conservation activities**

## RESEARCH OBJECTIVES

- To gather and analyze biological data specific to each range country using best practice methods developed at the Namibian center
- To better understand the cheetah's ecosystem by evaluating habitat, prey base and monitoring other carnivores
- To evaluate various non-lethal livestock management and predator control techniques
- To collaborate with other research organizations

The Cheetah Conservation Fund (CCF) is engaged in a variety of research programs to provide scientific support for conservation activities. The Fund presents its research findings at international conferences and in scientific publications.

## BIOLOGICAL RESEARCH

The cheetah is one of the most specialized of the 36 cat species with only one species in its genus, *Acinonyx*. During the 1980's, CCF's research collaborators studied many aspects of cheetah biology including genetics, reproductive physiology, and virology. These early studies identified the cheetah's limited genetic variation that results in reproductive and health problems

### ❑ GENETICS, OVERALL HEALTH, AND REPRODUCTION

CCF's on-going research on wild cheetah includes collecting and analyzing blood, skin, tissues, sperm, and fecal samples to study the genetics and relatedness of the population, indicate the incidence of disease, stress hormone levels, and the reproductive health of the population. Wild-caught cheetah are opportunistically examined including weighing and measuring for morphometric studies, analysis of their dental structure and reproductive fitness as part of the ongoing evaluation of the overall health of the world's cheetah population.

### ❑ THE APPLIED BIOSYSTEMS CONSERVATION GENETICS LABORATORY

To address the challenge of effectively monitoring the wild cheetah population, a new high-tech DNA laboratory was developed to implement a non-invasive, genetic monitoring program to provide accurate population estimates of cheetahs in Namibia and other home-range countries. The laboratory also will be used to address research questions involving cheetah gene flow and geographical patterns of genetic variation, as well as adaptive questions related to the cheetah's behavioral ecology in specific habitats. Assisting CCF researchers a scat dog will be used to help find scat for DNA analysis. The lab will also play a key role in training the next generation of wildlife geneticists.

### ❑ GENOME RESOURCE BANK

CCF has created a cheetah Genome Resource Bank (GRB) of sperm, tissues and blood samples to provide 'insurance' for cheetah's survival. Cryopreservation methods are being studied and refined in collaboration with the Smithsonian Institution in Washington DC, USA.



“ Scientific studies of the cheetah and its ecosystem are vital in order to develop sound conservation strategies for the future. ”

DR. LAURIE MARKER, CCF EXECUTIVE DIRECTOR





#### BEHAVIOUR DEMOGRAPHICS, HOME RANGE AND REINTRODUCTION

CCF researchers continue to investigate the movement of the cheetah to determine home ranges, habitat preference and seasonal use, territoriality, and behaviors unique to individual cheetah populations that may be critical for their survival. In conjunction with CCF conservation programs, researchers evaluate appropriate programs of relocation, reintroduction, and non-invasive monitoring methodologies to assure a viable wild population. CCF also gathers data on the status of the wild cheetah populations and on the relationship between humans and cheetah, to evaluate threats to the cheetah.



#### CHEETAH CENSUS RESEARCH

Cheetah are very difficult to census using conventional techniques due to their secretive nature. The CCF researchers have been testing various census and monitoring techniques, including radiotelemetry, spoor track counts and camera traps and calibrating it to existing known density estimates in its research study area. These data will prove invaluable in identifying and addressing threats to the long-term survival of the cheetah, developing and testing the most effective conservation strategies, and persuading key stakeholders to adopt appropriate cheetah conservation measures on Namibian farmlands and potentially in other regions of Africa.



#### ECOSYSTEM RESEARCH

CCF works to better understand the cheetah's ecosystem by evaluating habitat, prey base and monitoring other carnivores. Specific ecosystem research includes:

##### ❑ VEGETATION STUDIES

CCF identifies vegetation and monitors growth patterns within CCF study areas, identifies target areas for ecological management, and investigates how bush encroachment effects biodiversity.

##### ❑ PREY BASE STUDIES

CCF monitors habitat use by game species within CCF study areas and determines cheetah hunting strategies and prey preferences for individual populations. The Fund also collates historical data regarding predation, develops methodologies for the reintroduction of prey species, and encourages standardised prey studies in other cheetah range countries.



#### INVESTIGATING HUMAN AND WILDLIFE CONFLICT

Research into human and wildlife conflict is critical for cheetah conservation. CCF collaborates with farmers to better understand traditional farm management techniques and perceptions. Incorporating farmers' goals and objectives with research findings about the cheetah and its ecosystem enables the CCF to develop agricultural management plans that are mutually beneficial for cheetahs and farmers. CCF evaluates various non-lethal livestock management and predator control techniques that can reduce the indiscriminate removal of cheetah. The CCF research programme includes CCF as a model farm, non-lethal predator control such as Livestock Guarding Dogs.



#### COLLABORATIVE PARTNERSHIPS

CCF works closely with many research institutions around the world. Long-term research programme partners include the Smithsonian Institution, United States National Cancer Institute, University of California at Davis, Cincinnati Zoo, White Oak Conservation Center, Oregon State University, Polytechnic of Namibia, University of Namibia, EarthWatch Institute, the Cheetah Species Survival Plan of the American Association of Zoological Parks and Aquariums, the European Endangered Species Plan, the Cat Specialist Group of the World Conservation Union (IUCN) and the Namibian Ministry of Environment (MET).



#### CHEETAH CONSERVATION FUND

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