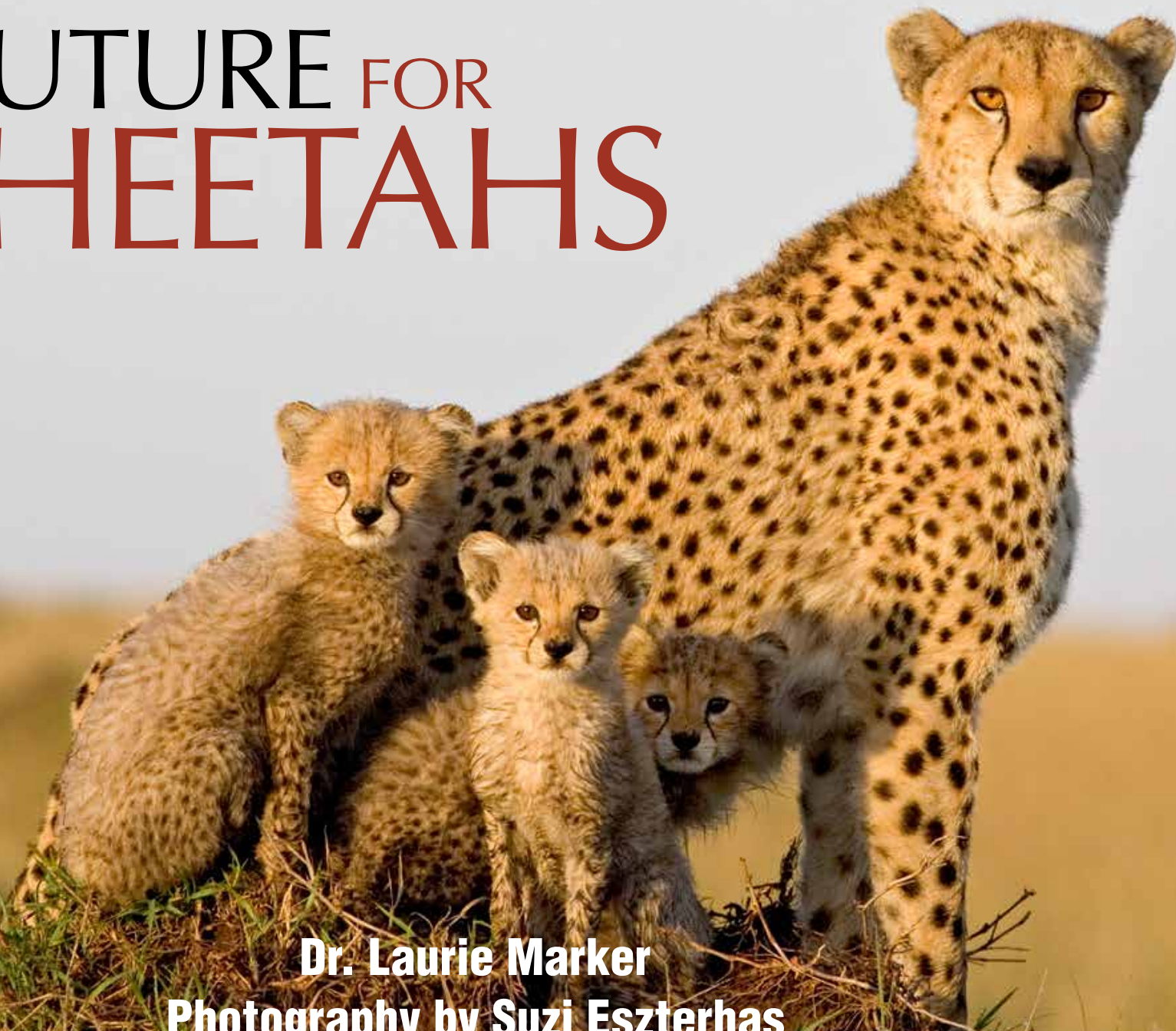


A FUTURE FOR CHEETAHS



Dr. Laurie Marker
Photography by Suzi Eszterhas



A CHEETAH'S EYES

Cheetah, the world's fastest land animal, is also one of Nature's icons. Most people are captivated by their eyes ... large and amber, almost mystical. When a cheetahs looks at you, it looks beyond you. A quick glimpse has the power to penetrate into your soul, and transport you into a different world: a world of past ... and future. For the cheetah their future is unknown and in our hands as humans to ensure they survive.

The cheetah's vision has a depth that is greater than most species. They scan the horizon looking for prey or other predators. It is the eyes of the cheetah that fascinate most people. And beyond these amazing eyes are entire ecosystems, which the cheetah helps to maintain through its selective hunting technique which includes spotting prey, stealthfully stalking and bursting into a short high speed pursuit to make a kill in which it not only will feed itself, but will share with others, from jackals and vultures to smaller carnivores and insects. Cheetahs are nature's doctors providing for other species which allows for a healthier ecosystem. If a cheetah helps feed jackals, the jackals don't need to find food in a local farmer's livestock kraal.

The cheetah's eyes are only one aspect of its distinctive physiology. Built for speed, the cheetah is one of the most unique of all species on the earth. Reaching speeds of up to 70 mph, every aspect of the cheetah is finely tuned to allow for maximum precision on the African plains. Scanning the horizon, the cheetah's eyes are shaped in such a way that they can pick up movement from great distances. The cheetah can see up to a mile with as clear a vision as humans can when using binoculars.

Imagine what it takes for a cheetah to find and succeed in making a kill. This unique predator is the pinnacle of perfection. With each stride the cheetah covers 20 feet with just one foot touching the ground at a time; at two points in the stride they are flying through the air with no feet touching the ground. When they are outstretched, un-attached shoulder blades and hip girdles, allow for maximum extension. Its flexible spine acts like a spring as it doubles up with feet under it to clench the earth with powerful non-retractable claws acting like cleats in the ground, to thrust it into unimaginable speed and maximum distance.



The cheetah is flying through the air. Their speed is not just straight forward; the cheetah is an acrobat turning directions in mid air with their tail acting as a rudder so they do not roll over or spin out at such high speeds. Their head does not move as its eyes focus on their target ahead, looking between black tear marks that act like a scope or a sight on a gun for a hunter. With an enlarged heart, circulatory system and lungs, all physiological aspects of the species adapted over millennia to make the cheetah a perfect running machine.

However, the adaptations which make the cheetah so fast also make it vulnerable. As the smallest of the large felids, the cheetah is not an aggressive animal. Unlike other big cats, a cheetah's canine teeth are small, allowing for room for a larger nasal cavity that brings in air during high speed chases. Their blunt, dog-like claws, superbly adapted for running, are not a match for the lions' or leopards' sharp claws which can steal their food or kill their young. Cheetahs are one of the top predators on the grassland savannahs; however, due to competition with larger predators like lions and hyenas in protected areas through their range, most of today's cheetahs are found instead on livestock farmlands where human-wildlife conflict is the cheetah's main cause of decline.

Research has shown us how large a cheetah's home range is, covering on average 800 square miles. Today, there are only 10,000 cheetahs remaining in about 23 countries, a 90% decline in the past 120 years. In the African continent, only less than 10 protected areas are large enough for the cheetah. Therefore, in order for this magnificent animal to survive into the future, large landscapes of integrated and managed livestock and wildlife are fundamental. Cheetahscapes will include arid rangeland management, poverty alleviation and livelihood diversification for rural communities on whose land the cheetah lives.

But the cheetah's pre-history has left it with another challenge. As one of the oldest of all the cats, the cheetah escaped the Pleistocene extinction, but with limited genetic variation. Therefore, the genes of each remaining cheetah today are valuable to the species as a whole. Limited genetic variation leaves the species vulnerable to ecological and environmental changes which are occurring at an ever increasing rate. As an iconic species racing against time, its future and ours, as humans, are intrinsically linked.

What will the cheetah's future hold? If we look to the past and through their eyes, we can provide a future for this enigmatic predator of the veldt.



THE CYCLE OF LIFE



**THERE ARE THREE STAGES IN THE LIFECYCLE OF THE CHEETAH,
A CUB'S LIFE, ADOLESCENCE, AND ADULT LIFE.**

**Birth – a litter is born,
what will their future be?**

After a 93 day gestation, a female cheetah hides herself in thick bush to nest and give birth. Up to 6 cubs are born (although a very few litters of up to 8 have been recorded, these are rare). Alone, she nurses her smoky-grey newborn cubs and rests after the silent birthing. At birth, the tiny cubs weigh about 250 to 425 grams and are blind and helpless. They will live in a secluded den for the next six to eight weeks, being moved by the female regularly from nest site to nest site to avoid predators. A female cheetah patiently grooms her cubs, purring quietly to them, providing warmth and security. After a day or so, the female must leave the cubs to hunt for herself, so that she can care for her cubs. This is the most vulnerable time for her cubs, as they are unprotected. The cheetah female is on her own, caring for her cubs for the next year and a half.





▲ At twelve days of age, this cub's eyes have just opened. At this age cubs have very limited vision and their eyes are very opaque. They can see and track movement, but are not able to fully focus on objects.

◀ At five days of age, a cheetah cub's eyes are still closed, leaving them vulnerable when the female leaves the nest to hunt for herself. Although cheetah moms are very attentive to their cubs, they must leave the nest to hunt to keep up their strength. When the cubs are at this age, it is critical that they find prey within a short distance of the den, no more than a couple miles.

► Even with eyes closed at 6 days of age, the cubs are mobile and keeping the female busy. In this instance, one of the cubs has crawled out of the nest and the mother is bringing it back. To keep the nest clean and prevent the development of scents that might attract predators, a female cheetah moves her cubs to a new den site regularly. This mother will soon be making her first move and she carries each cub gently in her mouth.





DURING THESE FIRST THREE MONTHS, CUB MORTALITY IS HIGHEST, LESS THAN 1 IN 10 SURVIVE DURING THIS TIME.



Growing up – leaving the nest

At about six weeks of age, the cubs begin following their mother on her daily travels, as she is looking for prey. During these first few months, she cannot move far or fast. And, during these first three months, cub mortality is highest, less than 1 in 10 survive during this time, as they perish from predation by other large predators, lions and hyenas. This is the time when life skills are taught, although play time appears to be constant. As they play, they are developing their motor skills, coordination, learning about the speed and agility of their body. They sit alongside of their mother, looking into the veldt, as she searches for the next hunting opportunity while on constant vigilance, looking out for predators which could harm her vulnerable, naïve family. There is so much to teach and for the cubs to learn life in the wild, for a cheetah has many dangers and challenges.



▲ Growing cubs need to learn so many life skills, including how to recognize dangers in their environment, and playful experimentation is one way to learn. By poking at it and trying to chase it, this cub will discover that while this tortoise poses no threat, he can't eat it and it does not run. He will soon move on to more amusing educational opportunities!

◀ Between 4 – 6 months of age, cheetah cubs are very active and playful. Trees provide good observation points and allow for development of skills in balancing. In addition, the cubs' semi-retractable claws are sharper at this age and help them to grip the trees as they play.





CHEETAH CUBS BEGIN LEARNING HOW TO HUNT AT AN EARLY AGE THROUGH TRIAL AND ERROR.



Hunting – learning to feed themselves

They join their mother and begin learning the importance of skill and accuracy which is critical as to not endanger themselves while hunting. Often their mother will chase the prey back to her cubs and watch as they practice their hunting techniques, chase, trip, and the important throat bite/strangulation. Cheetah cubs are not skilled hunters until they are over a year and a half of age at which point they are leaving their mother. But, they stick together, perfecting their hunting skills until they are on their own a couple months later.





SPEED, ADAPTATIONS
AND HABITATS





CHEETAHS ARE BUILT FOR SPEED WITH ALL PARTS OF THEIR BODY HAVING EVOLVED FOR PRECISION.

The Cheetah is the Enigma of the African Bush and the best hunter of the savannah. How cheetahs run is often misconstrued to think that these cats although fast, only run in near straight lines. Cheetahs are built for speed with all parts of their body having evolved for precision. From their small aerodynamic head, lean body and long legs to a flexible backbone and ruder-like tail, allowing for a graceful acrobatics, they are the fastest land animals. Their lithe and flexible body is built to change direction in a split second at the speed of a race car, and can run at up to 70 mph while turning 180 degrees. Cheetahs are adaptable and have uniquely evolved with these special adaptation for the niche they fill. They are Nature's Doctor and feed the whole veldt: jackals, vultures, porcupines and beetles.

Cheetahs are found in different ecological regions and thought to be multiple sub-species, today genetic research has shown that they are all very similar, sharing the same genetic code,

leaving them more vulnerable to ecological and environmental changes.

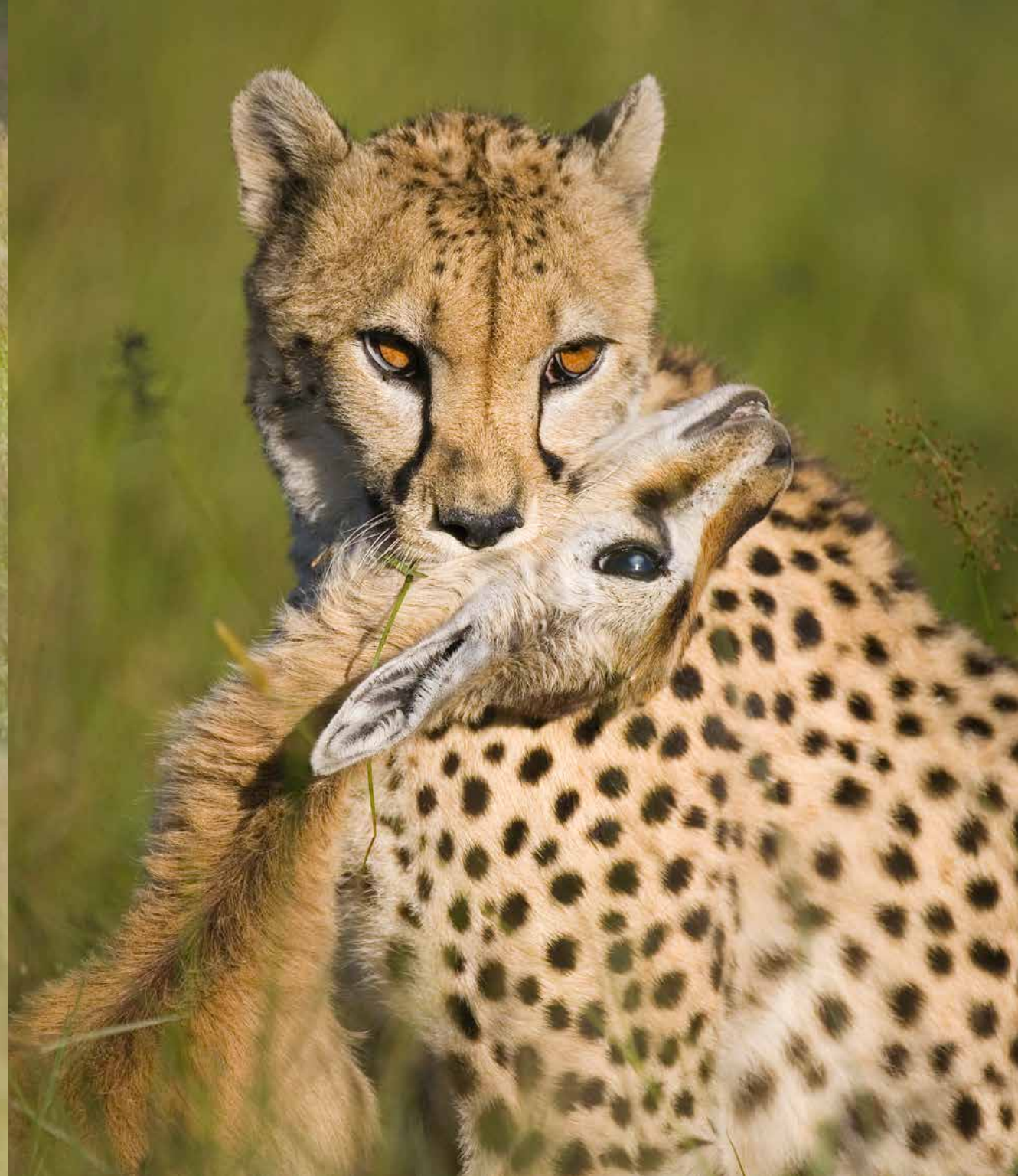
Although the cheetah is a survivor, today it has been pushed to the edge; their habitats are fragmented, and more and more people and their livestock are on their land. With competition for the grassland, there are also fewer numbers of wild prey species throughout their range. To survive they have adapted to areas that have become thicker with bush, due to overgrazing and removal of large grazing animals.

Today, cheetahs are living in a human dominated landscape. As habitats get smaller, cheetahs are overlapping more with humans and their livestock. Today in 2/3's of their remaining range, cheetah numbers are so small that these populations may not be viable. There is no wild left; where can the cheetah live in the future?

In Namibia, conservancies are the future. Conservancies practice integrated systems allowing people, livestock, wildlife and predators to live together.

◀ Small antelope like this fast Thomson's gazelle are the cheetah's main prey, but they have been known also to prey on larger species, especially when an individual is young, old, weak or sick. The cheetah hunts in short, fast sprints, and so over the millennia its body has evolved to be aerodynamic, built for speed and precision hunting in every detail.





◀ Far left:
These six month old cubs, who are just learning to hunt, stand by as their mother prepares to take a pass at some Thomson's gazelles. Even with their precision hunting skills, hunting can be a matter of trial and error. Cheetahs usually only successfully kill about 50% of the time.

Because a cheetah lacks the powerful jaws and bulk of other big cats, it kills prey with a combination of precision and speed. After a short, fast sprint, cheetahs trip their prey and grab it in a strangulation hold called a throat bite. The prey then dies from suffocation.



CHANGING THE FACE
OF AFRICA





SAVE THE CHEETAH MEANS CHANGING THE WORLD.

As human populations continue to rise, agriculture claims more and more land, leading to livestock-wildlife conflicts. A new form of farming is needed, Future Farmers of Africa, where conservancies practice integrated systems that can support food for people and habitat for wildlife. Cheetahs can have a place in the future.

Through educational outreach programs farmers learn livestock management techniques so that they don't have "problem" animals catching livestock, thus reducing the need to trap or shoot cheetahs on their farms, and reversing the historical belief that the only good cheetah is a dead cheetah. Farmers are taught about livestock health and management along with grasslands, wildlife and basic principles of ecology. Ancient breeds of livestock guarding dogs from Turkey, the Anatolian shepherd and Kangal have shown huge success. Dogs donated to livestock farmers by the Cheetah Conservation Fund deter cheetahs and other predators from preying on livestock.

Through Future Farmers of Africa, habitats can be restored, farmers can have better

livelihoods, and cheetahs can share the land. Through proper land use planning, there will be areas where cheetah reintroductions can take place. Countries like India, where the cheetah was revered by maharajahs and loved to extinction in the past century, today plan reintroducing cheetahs to restore eco-systems. The Cheetah Conservation Fund has developed strategies to rehabilitate cheetahs into the wild; however, each rewilding is difficult and requires careful planning and suitable habitat.

In many areas throughout the cheetah's range, poaching is decimating our wildlife populations, for food and profit. The illegal wildlife trade is in the same league as arms and drug smuggling. Live trade in cheetah cubs is a growing business in the Arabian Peninsula, with only one in six cheetahs surviving the ordeal.

A future for the cheetah will include large landscapes with grasslands that will support livestock and wildlife. Stable governments will support policies that include healthy ecosystems for the cheetah and people. Save the cheetah means changing the world.

◀ This ancient breed of guarding dog comes from Turkey. At CCF's Model Farm, the livestock guarding dogs work beside and independently from the small stock herders. Their loud bark alerts any predators in the area and predators, like cheetahs, avoid the area where there is livestock and a livestock guarding dog.



These Anatolian shepherd livestock guarding dog puppies are only three weeks old. When they reach ten weeks of age, they will be given to local Namibian farmers where they will grow up with their flocks to protect the livestock from predators.



Because the dogs are very effective at protecting and monitoring a herd, farmers can run their farms more efficiently with less personnel. One positive side effect where CCF dogs are in use is that farmers can reduce the amount of time their children watch the herds, allowing them to go to school more frequently.



A U T H O R

Dr. Laurie Marker, has been studying researching cheetahs since 1974, and was one of the scientists that collaborated on the landmark discovery of the cheetah's genetic bottleneck and began research on cheetahs in Africa in 1977. She is the Founder and Executive Director of the Cheetah Conservation Fund ([www. cheetah.org](http://www.cheetah.org)), and has been living in Namibia since 1991. In 2000, she was honored as one of *Time* magazine's "Hero's for the Planet", and has received many other prestigious awards including the 'Tyler Prize for the Environment' in 2010 and the 'Good Stewart Award' by the International Conservation Caucus Foundation (ICCF) in Washington, DC. By intimately living with and studying cheetahs, her perspective adds a depth of understanding that is matchless. She holds a doctorate from Oxford University in the United Kingdom.

P H O T O G R A P H E R

Suzi Eszterhas is a professional wildlife photographer, based in California. She specializes in documenting the family lives of endangered species and is well-known for her unprecedented work with newborn animals. Her images are published in books, magazines and newspapers all over the world, including TIME, Smithsonian, BBC Wildlife, GEO, Scientific American, Audubon, Ranger Rick, and National Geographic Kids. She is the author of a children's book series of eight titles about wildlife, *Eye on the Wild*. Suzi has won numerous awards and is represented by the world's leading natural history agencies. Suzi is on the road for many months of the year, undertaking commissions and leading instructional photography tours and workshops everywhere from the poles to the tropics. Please visit www.suzieszterhas.com for more information.



A Future for Cheetahs is a simple and elegant large-format book of incredible photography that provides insight on the past and present, and future of cheetahs in the wild. It features commentary by Dr. Laurie Marker, world renowned authority on cheetahs, and illustrated through imagery captured by renowned wildlife photographer, Suzi Eszterhas.

Through the eyes of the cheetah, this picture book story will bring you, the reader, face to face with some of the rarest and most beautiful images taken of wild cheetah. Equally as powerful, compelling stories and photos will weave a story of the conservation initiatives that are the key to their very survival.



Available for purchase online
www.cheetah.org/photobook

A significant portion of the
proceeds going directly to the
Cheetah Conservation Fund.

A Future for Cheetahs

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