HELP SPONSOR TRACKING EQUIPMENT AND COLLARS FOR LION, CHEETAH, LEOPARD, BROWN HYENA AND PANGOLIN
Lion Research
Why we do it

AfriCat uses GPS enabled collars to track lions. We research the frequency of lions crossing the Etosha National Park (ENP) boundary into commercial farmlands, and the formation of independent populations outside of the park.

The study monitors trans-boundary lion movement to determine how the conflict between lions and farmers along these boundaries could potentially be minimized.

The objectives behind the AfriCat lion tracking project are to collar lions found outside of the ENP boundaries and then monitor the movement of these lions.

Data collected is analyzed to locate weaknesses in the Etosha boundary fence. The pride dynamics along the Etosha boundary is also studied.
How you can help

Over the past twenty-eight years, we have successfully monitored lion movement along the Etosha national park border. In order to ensure the continued success in the fight against human-wildlife mitigation, we need to improve the quantity and quality of the data we analyze in our studies. This can only be done by upgrading our current tracking technologies to that of the latest collars on the market. With your help we can save the king of the jungle!

The collar
AWT GPS Collar

IR-SAT Tag, African Wildlife Tracking (AWT), South Africa

The IR-SAT Tag (Iridium Satellite and UHF Tag) provides wildlife animal tracking and telemetry with the aid of a small low power UHF Transceiver capable of ranges between a few hundred meters to several kilometers depending on the terrain and a IR-SAT module that transmits/receives data over the Iridium satellite system.

The Tags scheduled reporting and logging allows the Tag to:
- Transmit data via UHF and IR-SAT (Reporting)
- Store and forward unsuccessful GSM transmission on next reporting interval.
- Received new settings via UHF and IR-SAT
- Store data in the Tags non-volatile memory

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AfriCat’s Cheetah Rehabilitation project was initiated to give some of our captive cheetahs an opportunity to return to their natural environment.

Although hunting is instinctive to carnivores, most of the cheetahs at AfriCat lack this fundamental experience due to being orphaned or removed from their natural habitat at an early age.

This inexperience, coupled with their conditioning to captivity, make these animals unsuitable for release on farm land. The cheetahs (usually a coalition of brothers and sisters) are fitted with VHF radio collars before their release into the 20,000ha nature reserve in order to successfully monitor their progress.

Rehabilitated cheetahs are not released on farm land.

Besides giving cheetahs a chance to return to the wild, the success of this project provides other substantial benefits, such as:

Giving us the opportunity to assess whether rehabilitation is a successful means of conserving and endangered population, and

It also allows for the number of cheetahs in captivity to be reduced.
The collar:
Follow It, Sweden
Active Pulse Rate: 50 BPM
Mortality Pulse Rate: 80 BPM
Mortality Delay Time: 4 hours
Collar Adjustment Range: 320 mm – 560 mm (excess is cut off to ensure a snug fit)
Collar Width: 28mm
Weight: 190g

How you can help
The world’s fastest land animal is considered a vulnerable species. To reverse the trend, and to prevent the future decline of this precious feline, we need to continue our rehabilitation efforts. We can only do this by successfully monitoring our rehabilitation efforts in order to ensure the long term survival of this big cat.
Leopard Research
Why we do it

During each immobilization, our leopards undergo a full veterinary health evaluation. Our qualified veterinarians collect morphometric and biological data on each animal.

Photographs of flanks and the face (both side and frontal view) are taken to catalogue individual spot patterns. Each carnivore is fitted with a VHF radio collar. Their sex is recorded, and age class determined based on tooth size, abrasion and overall condition.

VHF radio telemetry provides detailed information on species specific movement patterns, home range utilization, habitat use and inter- and intraspecific interactions.

This is particularly useful for species which are nocturnal, secretive and occur at low densities.

Information gathered over time gives us an indication on how much space an animal requires, which habitat is preferred and is space is shared with other individuals.
The study of ecological parameters such as home range and territory sizes, prey preferences and spatial utilization patterns are important tools that help to develop long term and sustainable conservation and management blueprints.

The collar:
Theolonics - United States
MOD-335 VHF Instrumentation.
**High Power:** 60 BPM and continuously transmitting.
**Active Pulse Rate:** 60 BPM
**Mortality Pulse Rate:** 120 BPM
**Mortality Delay Time:** 4 hours
**Collar Adjustment Range:** 370cm – 570cm (excess is cut off to ensure a snug fit)
**Collar Width:** 25mm

How you can help
Having been classified as a vulnerable species, leopards are fighting a battle for survival, largely due to a loss of habitat. Since the trend is sure to continue, we need to keep on fighting for these majestic felines to ensure the long term survival of these big cats, so that they may once again flourish in the wild. By upgrading our tracking and monitoring equipment, we are ensured quality and timeous data in order to keep on fighting for all leopards. Help us reverse their conservation status!
Brown Hyena Research
Why we do it

The collars used in brown hyena research are programmed to take high resolution spatial data.

This means one position every thirty minutes on the night the hyenas are most active, and one position every two hours during the day.

Using this schedule, the battery life is predicted to last 18 months, therefore we would need more collars as from mid-2019. The collars automatically download the GPS data when they come within the range of the base station via a UHF connection.

This has the strong advantage of not needing to drive and find the animal each time you need to collect data, thus saving the cost of fuel and staff time. It also means that the animal is not disturbed on a regular basis for downloads.

Once the data is on the base station, which works with a local SIM card, it uploads to the server and then becomes available for analysis on a secured online platform.
How you can help

Also known locally as the strandwolf, the brown hyena is the rarest hyena breed in the world. Since the largest population of these can be found in sub-Sahara Africa, we are tasked with protecting this creature from further destruction. We can only do this successfully if we are able to monitor and track these brown hyenas, and study them using accurate and useful data. Together we can help save the brown hyena as a species!

<table>
<thead>
<tr>
<th>Battery</th>
<th>2 GPS fixes/day</th>
<th>4 GPS fixes/day</th>
<th>12 GPS fixes/day</th>
<th>24 GPS fixes/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/3AA</td>
<td>300 days</td>
<td>200 days</td>
<td>83 days</td>
<td>44 days</td>
</tr>
<tr>
<td>AA</td>
<td>1.4 years</td>
<td>339 days</td>
<td>140 days</td>
<td>74 days</td>
</tr>
<tr>
<td>C</td>
<td>&gt;3 years</td>
<td>2.5 years</td>
<td>1 year</td>
<td>204 days</td>
</tr>
<tr>
<td>D</td>
<td>&gt;3 years</td>
<td>&gt;3 years</td>
<td>3 years</td>
<td>1.5 years</td>
</tr>
</tbody>
</table>

The collar:
Wireless Wildlife
Pangolin Research
Why we do it

In order to conduct successful pangolin research, we will be using the ATS R2020 VHF model transmitter.

Pangolins cannot wear a normal collar, therefore the transmitters are glued or attached to the dorsal scale of the pangolin using screws. At 12 grams, these transmitters are set to 40 pulses per minute, and are estimated to last 535 days. The transmitters are programmed to give a mortality signal if no movement is detected for twelve hours.

Due to the external antennae, the signal is relatively strong which ensures tracking even when the pangolins are resting in their burrow during the day.

Because of its small size, the transmitters do not interfere with the normal movements of the pangolin, thus not influencing its behavior.

Pangolins will be tracked on a daily basis and a minimum of one position per day recorded so that home range estimates can be calculated. As pangolins are nocturnal, solar powered battery GPS units made for smaller species cannot be used, and therefore a VHF transmitter is currently the only viable option for successful pangolin research.

It’s currently used worldwide for conservation research of the world’s most trafficked animal.
The Collar

ATS Series R2000

**Transmitter Type:** Crystal controlled 2-stage  
**Calibration Tolerance:** ±2.5kHz  
**Frequency Stability:** ±2.5kHz, -20ºC to 40ºC  
**Pulse Rate and Width:** 40 BPM Typical on time 20ms.  
**Pulse Rate Variation:** 0.01%/volt, ± 0.01% for temperatures -20ºC to +40ºC  
**Mortality Pulse Rate:** 80 BPM  
**Mortality Delay Time:** 12 hours  
**Weight:** 12g  
**Battery:** Lithium  
**Activation:** By removing magnet  
**Encapsulation:** Electrical resin, water-proof, specific gravity: 1.12

A transmitter costs N$2740/US$200/£152 and courier cost from USA is N$4253/US$311/£237

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**How you can help**

The critically endangered pangolin is fighting a battle of life and death at the hands of humans, and is known as the most trafficked animal in the entire world. We are in the fortunate position to study these amazing creatures in their natural habitat, in order to aid in their fight. Help us by donating towards a collar so that we can ensure that this critically endangered species does not become extinct in our, or any, lifetime!
Cameras: Funding in Namibian $ and US$

<table>
<thead>
<tr>
<th>Radio Collars (Cost quoted is per collar)</th>
<th>Namibian $</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ATS R2020 VHF (Pangolin Collar)</td>
<td>6,993.00</td>
<td>497</td>
</tr>
<tr>
<td>- AWT GPS Collar (Lion Collar)</td>
<td>7,930.00</td>
<td>564</td>
</tr>
<tr>
<td>- Follow It (Cheetah Collar)</td>
<td>5,611.48</td>
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<tr>
<td>- Telonics (Leopard Collar)</td>
<td>3,567.35</td>
<td>254</td>
</tr>
<tr>
<td>- Wireless Wildlife (Brown Hyena Collar)</td>
<td>11,500.00</td>
<td>818</td>
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</tbody>
</table>

20 x Motion Detection Cameras

<table>
<thead>
<tr>
<th>Namibian $</th>
<th>US$</th>
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</thead>
<tbody>
<tr>
<td>160,000.00</td>
<td>11,380</td>
</tr>
</tbody>
</table>

Total Funds Needed in N$: **195,601.83**

Total Funds Needed in US$: **13,912**