HELP SPONSOR TRACKING / MONITORING EQUIPMENT:
Telemetry sets & GPS-Satellite Collars for Lion, Trail Cameras for Identification & Monitoring of Lion and other Large Carnivores
Lion Research
Why we do it

The Namibian Lion Trust uses GPS-Satellite collars to track & monitor lion. Monitoring lion movement enables us to establish patterns and home ranges, as well as plot locations where lion spend extended periods of time indicating kills, dens and preferred resting places.
Research essentially gathers accurate data on the demography and ecology of the lion within Protected Areas and on farmland; the monitoring of individuals and groups or prides, indicate the driving forces which stimulate lion to move, also quantifying both the degree of human-lion conflict and the impact it has on people living adjacent to parks and reserves as well as in wilderness areas, including communal farmland.

Since the lion instinctively follow prey species and are seldom restricted by boundaries, they may roam from Protected Areas onto communal and free-hold farmland in search of food. Regular GPS tracking enables the research team to monitor cross-border movement from protected areas onto farmland, where interaction with humans may result in conflict. These collars also enable us to set Geo-fence Alerts, which are sent to secure mobile phones and / or email addresses, informing the team when the lion moves out of a pre-set ‘safe-zone’ and into a potential ‘conflict zone’. We are then able to forewarn farmers of pending lion activity; in most cases, the farmers have time to move their livestock elsewhere or bring them into the protective ‘bomas’.

Interestingly, a number of lion and other large carnivores live outside of Protected Areas on communal Conservancy farmland; these predators, farmers and their livestock may share the same habitat. Collaring individuals makes it possible to co-exist in this landscape.

The data collection methods have been improved by placing motion detection or trail cameras at waterholes, or opportunistically at kill-sites.
IR-SAT Tag (Courtesy African Wildlife Tracking)
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 a 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 to be downloaded using a UHF Handheld Transceiver or Satellite/GSM Tower (Logging)

The use of scheduled reporting and logging provides the follow tracking and telemetry data via UHF and IR-SAT:
- Tag ID (Unique Tag ID number)
- RSSI (Receive Signal Strength Indicator for UHF and IR-SAT)
- Encrypted GPS (Coordinates, time, ground speed and DOP (Precision of GPS reading))
- Accelerometer (Raw 3-axis accelerometer data)
- Movement (Movement since last reading)
- Temperature (Temperature on Tag)
- Geofence (Geofence boundary parameters)
- Tag Settings (RF Power, logger interval, heartbeat rates, built in test results and operational modes)
- Battery Voltage (Current Tag battery voltage)
- Alarms (Low battery, Geofence breach, tamper detection, track mode, sleep mode and memory full alarms)
HOW YOU CAN HELP

Over the past twenty-eight years, we have monitored lion movement along the western Etosha National Park border. In order to effectively mitigate human-wildlife conflict, we need to improve on the quality of the data collected during our studies. This can only be done by making use of current tracking technology. With your help, we can.

Sponsor tracking and monitoring equipment: Funding in Namibian $ and US$

<table>
<thead>
<tr>
<th>Item</th>
<th>Namibian $</th>
<th>US$</th>
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<tbody>
<tr>
<td>GPS-Satellite Collar (only)</td>
<td>38,000</td>
<td>2,500</td>
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<tr>
<td></td>
<td>40,000</td>
<td>2,700</td>
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<tr>
<td>Preparation time, fuel prior to and during the activity; staff food, community support (food), Veterinarian costs, drugs, oxygen, blood analyses:</td>
<td>200,000</td>
<td>13,900</td>
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<td>20 x Motion Detection cameras 8-10,000 N$ per camera + protective metal casing.</td>
<td>278,000</td>
<td>19,100</td>
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