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Kuno Cheetah Tracking:

Why Satellite Collars Cannot Ensure Live Monitoring

Kuno Cheetah Tracking Latest News

Following the death of 19-month-old cheetah KNG22 — found with five firearm pellets in his body — Kuno National Park Director issued a detailed explanation clarifying a key misconception: satellite collars do not provide continuous, live tracking of cheetahs.

The incident has triggered the suspension of six forest department officials, and raises critical questions about the technological and terrain-related limitations of wildlife monitoring under Project Cheetah.

What Happened to KNG22?

KNG22 — offspring of Nirva, a six-year-old female South African cheetah under Project Cheetah — was found seriously injured in the Sheopur Territorial Forest Division, near the Morena district border, on October 25, 2026.

He was rescued and taken to Kuno for initial examination, then shifted to Nanaji Deshmukh Veterinary Science University, Jabalpur, for advanced treatment.

Diagnostic Findings

X-ray: Revealed multiple foreign bodies at different locations in his body.

CT scan: Showed damage to internal organs, musculoskeletal system, and nervous system.

Emergency surgery: Recovered five firearm pellets — but the cheetah could not be saved, dying on October 27.

The state government has formed a Special Task Force (forest and police officers) to investigate, and suspended six forest department officials in connection with the case.

Debunking the "Live Tracking" Myth

Director Sharma stressed: "Let us get rid of the misconception that a satellite-collared animal is available for continuous live tracking, like a live television broadcast."

A satellite location only provides a geographical position at a specific point in time — not continuous monitoring.

By the time this data reaches the monitoring team and personnel physically reach the location, the animal may have moved several kilometres away.

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How Kuno's Monitoring System Actually Works

Kuno tracks around 15 cheetahs using a combination of satellite collars and VHF (radio) receivers:

Satellite Collars: Provide location data over large, often inaccessible areas.

VHF Equipment: Used by field teams to locate animals more precisely on the ground once in range.

Transmission Frequency: Collars are programmed to send location updates every 6 hours — a deliberate balance between data frequency and battery life.

If a transmission is missed:

One missed update →gap extends to 12 hours.

Another missed update →gap extends to 18 hours.

Cost Factor: Satellite collars cost around ₹4-5 lakh each, with transmission frequency calibrated against monitoring needs, battery life, and expected collar lifespan.

Why Signal Loss Is Common, Not Exceptional

Temporary signal loss is a routine occurrence, caused by:

Dense forest canopy interfering with GPS accuracy.

Rocky terrain, caves, and deep valleys obstructing satellite visibility.

Poor satellite geometry or temporary interference affecting location acquisition.

An animal resting under dense vegetation, near water, or in areas with poor satellite reception.

Crucially: A missing location update does not necessarily mean the collar has malfunctioned or that something has happened to the animal — monitoring teams must simply wait for the next successful transmission.

Why Kuno's Terrain Makes This Especially Challenging

Cheetahs are highly mobile, averaging 6-8 km of movement per day — sometimes covering 12-15 km or more, mostly during early morning and late evening.

By the time a team reaches the last reported satellite location, the animal may have moved far beyond VHF radio range.

If the scheduled satellite transmission is also missed, teams have no option but to wait for the next successful fix.

Practical Ground Challenges:

Following a cheetah on foot is extremely difficult.

Vehicles cannot move in straight lines through forests like animals do — the actual distance covered can be several times the straight-line distance between two points.

Moving on foot through dense forest in poor light carries its own risks.

Keeping an animal within visual or radio-tracking range throughout the day is an extremely demanding task — requiring continuous coordination, patience, technical understanding, and tremendous physical effort.

These challenges are part of daily monitoring, not occasional exceptions.

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Conclusion

The KNG22 tragedy exposes a critical gap between public perception and the technical reality of wildlife monitoring — satellite collars, however advanced, are not a substitute for real-time surveillance, especially across challenging terrain where dense canopy, rocky landscapes, and highly mobile animals routinely disrupt signal continuity.

While the administrative lapses that allowed a cheetah to be shot within a protected reintroduction program demand accountability, Director Sharma's explanation is a necessary corrective: effective cheetah conservation at Kuno requires not just better technology, but sustained human vigilance, inter-agency coordination, and realistic expectations about what satellite tracking can and cannot achieve in India's dense forest landscapes.

