

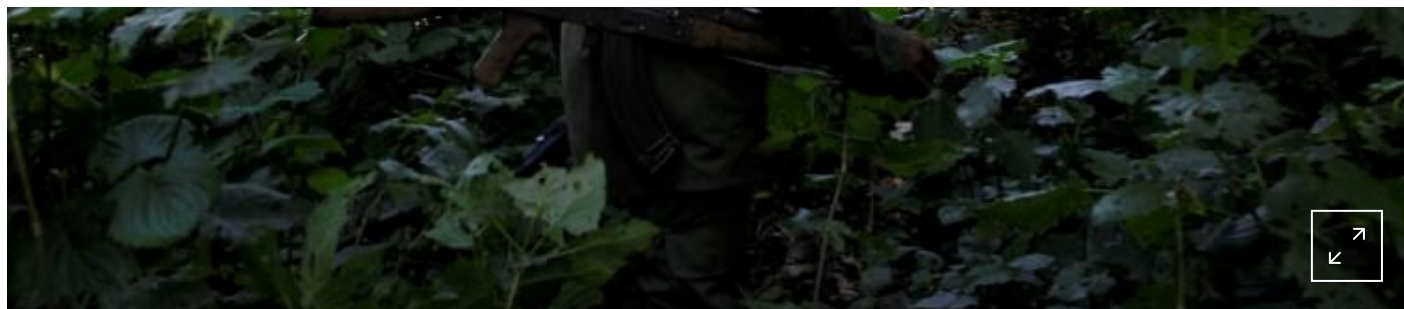
Rangers try gaming technology to protect African wildlife

Neha Wadekar



NAIROBI (Reuters) - The campaign to track down poachers and protect endangered species in Africa's embattled reserves is tapping into the technology used in the virtual world of online poker and other computer games.





Ugandan Wildlife Authority (UWA) rangers escort visitors during the tracking of endangered mountain gorillas from the Bitukura family, inside a forest in Bwindi Impenetrable National Park in the Ruhija sector of the park, west of Uganda's capital Kampala, May 24, 2013. REUTERS/Thomas Mukoya/File Photo

A U.S.-funded initiative is applying artificial intelligence and game theory algorithms to predict the movement of poachers, helping rangers who are testing the new technology in Uganda to find illegal hunters and their animal traps.

“We’re trying to predict future poacher attacks or where poachers may strike next based on what we have observed in the past on our patrols,” Professor Milind Tambe from the University of Southern California, who is leading the initiative, said.

“Each confiscated snare represents an animal’s life saved,” Tambe, whose team is developing technology called Protection Assistant for Wildlife Security (PAWS), told Reuters by phone.

Across Africa, a battle against poaching is raging but often being lost. African elephant numbers, for example, fell by 20 percent between 2006 and 2015 because of a surge in ivory poaching, according to conservationists.

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There have been some successes. Uganda has seen its elephant population recover from a nadir of 700 to 800 in the 1980s after years of chaotic rule and dictatorship to reach about 5,000 now. But officials say poaching is back on the rise.

“Elephant poaching has started to increase in the last five years, which is a major concern, and that’s linked to the global price of ivory,” said Andy Plumtre, director of the Albertine Rift Program for the Wildlife Conservation Society in Uganda.

The problem is not just big time poachers seeking ivory, which can sell for \$1,000 a kilogram (\$450 a pound) or more. Illegal hunters are sometimes locals seeking meat to eat or sell to pay school fees.

Killing game, meanwhile, has knock-on effects. It destroys prey chased by carnivores such as lions and leopards, causing their numbers to drop too.

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PAWS

This is where PAWS, which is being tested in Uganda's Queen Elizabeth National Park, aims to assist in the fight against poaching. The system helps rangers map routes in the same way mathematical computer models predict how a rational human reacts and create opponents for online poker and other games.

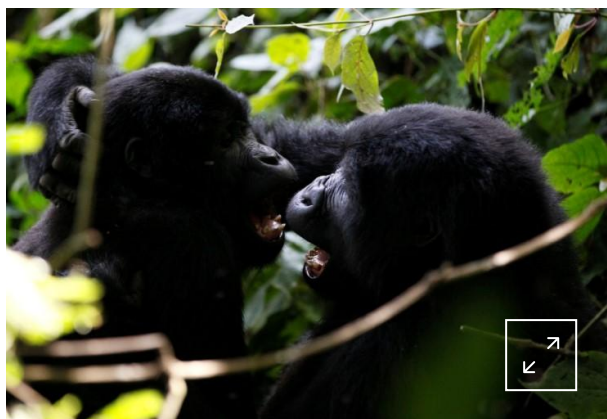
“We want to deliver the software so the local rangers can use it with minimum training,” Tambe said, adding that Queen Elizabeth National Park offered 18 years of ranger-collected data on illegal activities to help perfect the technology.

In the past month since the latest round of testing began, rangers using PAWS have found 10 antelope traps and elephant snares waiting to be triggered, a far better score card than they could usually expect without technological assistance.

Sometimes success still comes too late, one patrol using PAWS found an elephant carcass with tusks sawn off.

Tambe has used game theory software to improve efficiency of U.S. law enforcement and government agencies since the early 2000s, but realized the techniques could also protect wildlife.

Initial PAWS testing has also taken place in Malaysia, and the program has been funded by the U.S. National Science Foundation (NSF) and the Army Research Office.



Slideshow (3 Images)

PAWS faces its own challenges, however.

Poor mobile and internet connectivity in the park could prevent the rangers from using the software accurately and in real-time.

It could also bring rangers even closer to poachers who have proved ready to turn their guns on the authorities elsewhere. In Virunga National Park, in neighboring Democratic Republic of Congo, 150 rangers have been killed in the past decade.

Editing by Edmund Blair/Jeremy Gaunt

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