Namibian Sun
Tells it all

New technology to help monitor rhinos

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16 September 2020 | Environment

PROTECT: New software has been developed that could help conservationists track and monitor black rhinos. Photo: FILE

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After a study on black rhinos in Namibia, new software has been developed by researchers in the United States that could help conservationists keep a watchful eye on the black rhino.

The interactive software was jointly developed by researchers at Duke University and analytics software specialist SAS and analyses the footprints left behind by black rhinos. This can be used to monitor their movements and enable conservationists to help keep the animals safe from poachers.

The software, called the Footprint Identification Technique (FIT), uses advanced algorithms to analyse over 100 measurements of a rhino's footprint. According to a statement by Duke University, because each rhino's footprint is as distinctive as a human fingerprint, the analysed images can be archived electronically in a global database of previously collected footprint images for matching.

“If you find a match, you can identify the individual animal that left the mark and by plotting locations of all other places that that mark has been seen, track its movements without disturbing it or coming into close contact with it,” said Zoe Jewell, adjunct associate professor at Duke University's Nicholas School of the Environment, who co-led the study and is the co-creator of FIT. “It is a cost-effective approach that not only protects the health of the rhino and the human, but also brings a centuries-old tracking skill into the 21st century.” According to the statement, Jewell and her colleagues are working with the environment ministry to train wildlife conservationists, land managers, local guides and anti-poaching agents on how to use FIT. Namibia is home to an estimated 2 000 black rhinos, which are dispersed in protected areas and private lands throughout the country.

Jewell said these rhinos sometimes disappear out of sight into the Namibian backcountry, making them irresistible targets for poachers.

“Authorities often do not know that a rhino that has gone missing or has been poached until they find the carcass.”

High-tech

FIT allows the animals to be monitored three different ways. In the simplest option, the heel pattern on a digital image of the footprint is compared to images already in the FIT database to search for a match. This is well-suited for situations where a random footprint is found in the wild.

It can also do a survey of footprints throughout protected areas and take measurements from each print to estimate the number of rhinos in that area.

This can be useful information for calculating resources that are needed, such as the number of vehicles, to monitor the animals effectively.

In the most advanced option, each individual rhino can be tracked and matched using both FIT and feet patterns. This creates an interactive library that anti-poaching units can use to search for animals at high risk, those that frequent areas under threat from poachers or those whose footprint have not shown up in years.