

Poaching patrol—new ranger methods decrease illegal activities

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Ecologists from the University of York have tested a new method to detect and decrease wildlife poaching, using data to better predict where illegal activities occur in protected areas.

Collaborating with the Wildlife Conservation Society (WCS) and the Uganda Wildlife Authority (UWA), new patrolling methods were trialled within Queen Elizabeth National Park (QEPA), one of Uganda's most important [protected areas](#) for [elephant conservation](#).

Using newly developed SMART software to record accurate locations of patrols and illegal activities, testing of the new patrol allocation method found that rangers are more effective in detecting threats.

Based on a previous study showing that specific poaching locations do not vary significantly year to year from 12 years of ranger-collected data, patrols were encouraged to target areas predicted to have a high probability of [illegal activity](#).

In a paper published in *Conservation Letters*, it is shown for the first time that altering ranger patrols on the ground can successfully improve detections of illegal activities without the need for any additional resources and costs.

This is a significant finding, as patrols in many protected areas around the world require significant financial input to maintain them, often at more than 50% of a park's annual budget.

These results show that adopting new patrolling methods can significantly increase the detection of illegal activities, enabling more efficient and effective ranger patrol in the future for the same cost.

Dr Rob Critchlow, Research Associate at the University of York's Department of Biology, said: "Biodiversity in protected areas is increasingly threatened from illegal activities such as cattle encroaching and hunting. Ranger patrols are commonly deployed to try to stop such activities across such areas around the world.

"This is the first indication that altering ranger patrols on the ground can result in considerable benefits for conservation. We are keen to test this approach to assess its applicability across different types of protected areas."

Dr Colin Beale, Lecturer in York's Department of Biology, added: "As shown in previous analysis, different illegal activities often occur in different areas and this has implications for managing and directing ranger patrols.

"In addition to targeting particular types of illegal activity, such as poaching for elephants, our new method can also incorporate different conservation priorities such as focusing on both cattle encroachment and firewood collection. It shows there are trade-offs to be made in which illegal activities are targeted and where."

Dr Andrew Plumptre, Director of the Albertine Rift Program at the Wildlife Conservation Society, said: "SMART is now being used in more than 120 protected areas across the globe and we strongly encourage the use of technology to aid biodiversity conservation. The method shows how such data can be used effectively to strengthen patrolling. Importantly this improvement is made at the same cost and results in a more efficient and effective deployment of rangers."

Margaret Driciru, UWA Warden for Monitoring and Research of the QEPA, adds: "One of the approaches used by UWA for managing the protected areas is based on the principle of Threat Reduction which involves: identification of threats to the protected areas, ranking the threats, identifying strategies for reducing the threats, implementing these strategies and monitoring the effectiveness of the threat reduction strategies. Hence the Ranger Based Data Collection system is a means of quantifying how the threat levels are changing as well as the effectiveness of our threat reduction strategies. We are happy that the analysis of these data will help us to improve in our ranger patrol effectiveness."

More information: R. Critchlow et al. Improving Law Enforcement Effectiveness and Efficiency in Protected Areas Using Ranger-collected Monitoring Data, *Conservation Letters* (2016). [DOI: 10.1111/conl.12288](https://doi.org/10.1111/conl.12288)

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