

Rewilding of large-bodied animals can mitigate ecosystem deterioration, study shows

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The greater one-horned rhinocero reintroduced to the wild. Credit: XTBG

A successful reintroduction program for one-horned rhinos has been implemented in Nepal over the past few decades. However, few studies have examined functional recovery following reintroduction.

In a study published in *Biological Conservation*, researchers from the Xishuangbanna Tropical Botanical Garden (XTBG) of the Chinese

Academy of Sciences and their collaborators [examine the impacts](#) of reintroducing greater one-horned rhinoceros (*Rhinoceros unicornis*) on restoring their ecological function, particularly their interactions with other mammals and birds via their dung (latrines).

The study was conducted at two sites in Nepal: Chitwan National Park, which has a stable rhino population, and Shuklaphanta National Park, where a rhino reintroduction program was implemented from 2003 to 2018.

The researchers investigated whether rhino reintroduction had restored the ecological function of rhino latrines as a [food source](#) for other animals.

They set up camera traps in the two parks. They monitored visitors to 30 rhinoceros latrines in both parks during 669 camera trap days between 2020 and 2021. They then compared [species richness](#) and visitation rates of mammals and birds interacting with [rhinoceros](#) latrines between the two sites, recording how often animals visited the latrines and their behavior on them.

They found that there were no significant differences in the species richness of latrine visitors or in the frequency of most behaviors at the latrines, despite large differences in rhino abundance between the sites, as well as differences in latrine size, quality, and some nutrient contents. Animal visitation rates were higher at the site where rhinos had been reintroduced, confirming that latrines are an important and limited resource.

They observed four mammal and four [avian species](#) using rhino dung to feed on insects or plants growing around the dung; two other [mammal species](#) interacted with latrines only indirectly.

"Our study provides strong evidence that rewilding of rhinos can restore the function of latrines as nutrient hotspots for other organisms. Therefore, reintroduction of large-bodied animals can mitigate ecosystem deterioration," said Chen Jin of XTBG.

More information: Balram Awasthi et al, Restoring ecological function: Interactions between vertebrates and latrines in a reintroduced population of *Rhinoceros unicornis*, *Biological Conservation* (2024).
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