

THE CONVERSATION

Academic rigor, journalistic flair

Conservation efforts can't afford to shy away from high-risk conflict zones

July 5, 2016 11:36pm EDT



Despite ongoing conflict in the DRC, the number of endangered mountain gorillas in the Virunga National Park has increased. Shutterstock

Authors



Edd Hammill

Professor of Watershed Sciences, Utah State University



Ayesha Tulloch

Research Fellow, Australian National University



Hugh Possingham

Director ARC Centre of Excellence for Environmental Decisions, The University of Queensland



Kerrie Wilson

Associate Professor and ARC Future Fellow, The University of Queensland



Niels Strange

Professor in Management Planning of Forest

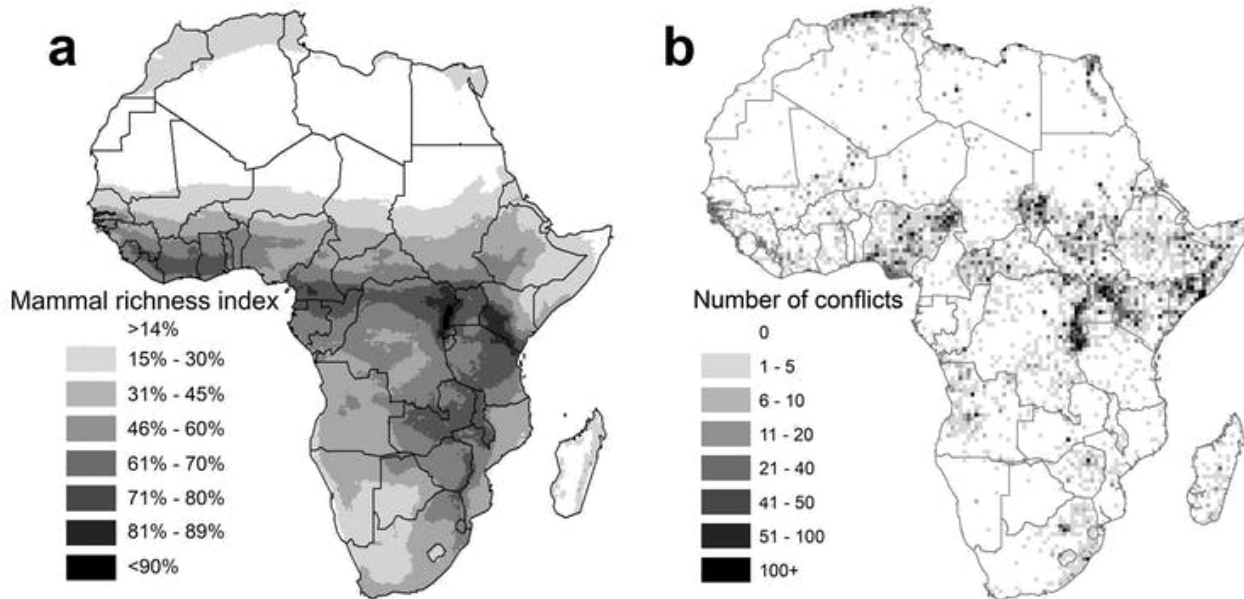
Between 1950 and 2000, 80% of the world's armed conflicts took place within biodiversity hotspots. These are places that contain unusually high concentrations of animals and plants. The correlation between biodiversity hotspots and conflicts is striking. It has complex beginnings, and gives rise to both opportunities and challenges.

There is a high prevalence of conflict in biodiversity hotspots for a variety of reasons. Biodiversity hotspots are often expansive areas of forest in remote places. Here, it is possible for militias to remain hidden from government control.

Many of these hotspots also house valuable species that can be harvested to fund paramilitary activities, including those of some high-profile groups like the Lord's Resistance Army, for example. This is a rebel group that is known to operate in northern Uganda, South Sudan, the Central African Republic and the Democratic Republic of the Congo (DRC). It is believed to have acquired funds from the ivory trade.

The isolated nature of biodiversity hotspots may also mean that the impact of the conflict is magnified. Refugees may be forced to rely heavily on natural resources for subsistence. This is demonstrated by the deforestation of 113km² near Goma, at the edge of the Virunga National Park in the DRC, after the settlement of refugees.

The potential for conflict to affect biodiversity necessitates strategic planning, active intervention and good management. Understanding the spatial overlap between high conflict risk and high biodiversity is important to achieve this.



Mammal richness index and conflict history map. Edward Hammill

Successful conservation is possible in conflict zones

Conflicts and effective biodiversity conservation are not mutually exclusive.

The eastern side of the Virunga National Park – one of the most biologically diverse areas on the planet – is home to the world's critically endangered mountain gorillas. The area has experienced sustained instances of armed conflict over the past 40 years. Yet it has managed to sustain African elephants and seen an increase in mountain gorilla numbers, despite the conflict.

The most crucial factor in Virunga's continued success has been the willingness of staff to maintain operations in times of conflict. Park rangers have vowed to continue working despite mortal danger. Director Emmanuel de Merode, a high-profile conservationist, anthropologist and Belgian prince remains dedicated to working within the park, despite an attempt on his life.

From a government perspective, managing conflicts can reduce the relative priority of biodiversity conservation. During times of conflict this can lead to domestic spending being diverted away from conservation and towards military activities or protecting vital infrastructure. But during ongoing conflicts within sub-Saharan Africa and Afghanistan, provision of resources by the Wildlife Conservation Society, USAID and the United Nations Environmental Programme enabled effective biodiversity conservation to continue. It also aided rapid post-conflict development.

Providing financial support can also lead to positive outcomes beyond saving species, and in some cases provide a pathway to peace. This can be seen in the success of transboundary protected areas. These areas can foster communication between separated communities, and provide a common goal that

allows conflicting factions to work in partnership.

Given the increased impact of armed conflict globally, it is prudent to explicitly account for this type of risk in conservation decision-making.

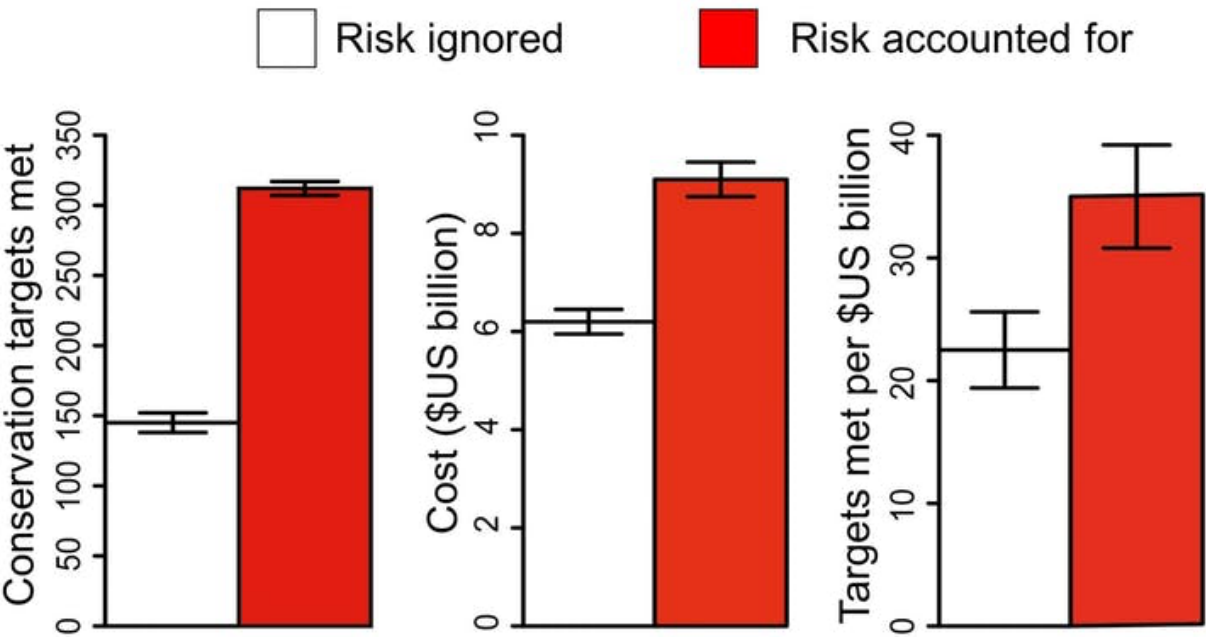
Incorporating conflict risk

The resources available for biodiversity conservation are limited. They must be used wisely. A basic requirement is data, particularly data that looks at where threatened species occur, how much conservation would cost in these areas, and what risks are associated with conserving those areas.

There are examples of how conflict data have been used effectively in the past. Several national-scale conflict risk maps have been created showing where conflicts have taken place before and where they're happening now. These mapping exercises have been done by the Institute for Economics and Peace and work led by Håvard Hegre, a professor of peace and conflict research.

But conflicts are not distributed evenly across nations. The Armed Conflict Location Event Data Project shows how conflict risk varies substantially within countries. For example, the DRC has experienced some of the highest levels of conflict within Africa. But the majority of these conflicts occur along the eastern border, leaving a comparatively safe area to the west.

An expensive process



Edward Hammill

High conflict risk areas in Africa could be avoided entirely when planning and implementing conservation. But this will lead to the avoidance of many highly biodiverse areas, which is far from ideal. So if the placement of new African protected areas were conducted without accounting for the dangers posed by conflict, this could lead to losses that result in half of all species receiving insufficient protection.

Accounting for, and mitigating conflict risk is, however, a costly undertaking. A protected area network that would protect Africa's 236 endangered mammals and mitigate the effects of conflict is predicted to be 50% more expensive than one that ignores conflict risk.

This 50% increase in costs would lead to 100% more conservation targets being met. This means returns on investment would be considerably higher. The funds required to conserve all 236 endangered mammals in Africa while accounting for the risk of armed conflict would be substantial, amounting to US\$9.1 billion.

The key issue is that decisions around protecting biodiversity in conflict areas must go beyond simply avoiding areas perceived as being unstable. In Africa, opting simply to avoid conflict-prone areas would result in iconic mammals like the eastern lowland gorilla being essentially abandoned.

It is crucial to incorporate conflict risk into conservation. Understanding and incorporating conflict risk will allow managers to make informed decisions about the placement of protected areas and recruit rangers willing to work under these challenging conditions. Only through a continued commitment to long-term management will conservation in Africa's conflict-affected, biodiverse regions continue to succeed.

 **Conservation** **Endangered** **Conflict** **Democratic Republic of Congo** **Wildlife conservation** **endangered animals**
Mountain gorillas **Africa conflict** **Virunga National Park**