

Pointless: A quantitative assessment of supply and demand in rhino horn and a case against trade

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The world is witnessing an unprecedented upsurge in poaching and illegal wildlife trade, which is undoing decades of conservation efforts. Some of the most profitable species include iconic animals such as rhinos, elephants, tigers and even fish. The notion that wildlife trafficking is worth 7-23 billion US dollars (UNEP-Interpol 2016) and ranks amongst the four most lucrative illicit trade commodities has become cliché. Rhinos have been especially hard hit by these developments. Last year, poachers killed at least 1,342 rhinos in Africa, the highest number since records began in 2006. Rhino populations everywhere are under siege from poachers, illegal traffickers, national and international criminal networks, art collectors, status and pleasure seekers, medical patients and financial speculators intent on cashing in on their increasing rarity. Most wildlife and enforcement experts consider resolutely enforced international and national trade bans and effective demand reduction initiatives the most promising route towards reversing the current trend. Others vociferously advocate the legalization of trade in rhino horn as the only viable option that can ensure a future for the world's remaining rhinos. The debate about whether legalized rhino horn trade might benefit rhino conservation has produced an abundance of academic and other publication, which include a large number of theory-based analyses. A quantitative appraisal of supply and demand has so far been lacking. This study provides the first quantitative assessment of the relationship between rhino horn supply and demand. Scrutinizing a variety of different supply and demand scenarios it illustrates the significant discrepancy between the reservoir of approximately 141 tonnes of horn carried by the world's remaining rhinos and those in South Africa and the two main consumer markets in Vietnam and China.

Directing rhino metapopulation management 'best practice' during a poaching crisis

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The white rhino, *Ceratotherium simum Burchell*, has been conservation dependent since their first major recorded population crash in 1885. Prior to the poaching spike of 2008, management-related losses such as fighting mortalities and overstocking-induced unborn calves exceeded those of poaching in South Africa. However, the country has recently reached the point where poaching mortalities have exceeded natural birth rates. The focus of this research is to assess critical rhino metapopulation management questions arising at this time of population decline, to develop proactive best practice protocols for species recovery. And more significantly, this study will apply these new data as a biological management tool for the future, in accordance with the WWF and IUCN/AfRSG Rhino Action Plans, to maximize the genetic fitness of a consistently threatened species of integral economic and ecological importance to Africa. Utilizing baseline population genetic data and ecological and evolutionary modelling techniques such as Population Viability Analysis, we are able to address metapopulation level genetic questions pertaining to reintroductions, reproductive success and population growth. The first aspect investigated the levels of relatedness in social groupings of rhinos in effort to advise managers on the genetic implications of translocating rhinos from close and overlapping geographic ranges. The second aspect to be reported on here is the establishment of breeding values of dominant bulls with range/territory data and horn size included as parameters, in order to better understand the optimal length of term that