



Perspective

The shared nature of Africa's elephants

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ABSTRACT

The world's biodiversity is shared by countries that are increasingly recognizing the need for effective responses to human influence and climate change impacts through coordinated management and protection of nature beyond national borders. The case of elephants, a highly mobile and widely distributed mammal that plays crucial ecological and economic roles in savanna and forest landscapes, exemplifies the need for approaches to conservation that transcend geopolitical frontiers. Transboundary cooperation can bring substantial conservation and economic benefits but also presents challenges for policy, governance, and diplomacy. While some multilateral environmental agreements have explicitly incorporated transboundary commitments into their frameworks, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) continues to focus on the sovereignty of individual nations in regulating trade of wildlife. This inward-looking approach is embodied by the continued “split-listing” by range States of African elephants between countries affording two levels of protection—Appendix I (no international commercial trade) and Appendix II (regulated trade). Using data from the African Elephant Status Report 2016, where savanna elephant data are based mostly on the recently completed Great Elephant Census, we show that 76% of elephants are found in populations spread across one or more national borders. This blurring of strictly national populations makes a split-listing of elephants between two CITES appendices—and varying levels of protection—inconsistent with ecological reality and conservation best practice. At the 17th CITES Conference of Parties (CoP17), in September–October 2016, influential parties prevented acceptance of a proposal, supported by the majority of elephant range states, that would have unified all African elephants under Appendix I. The real reasons for perpetuating the split-listing at CoP17 were ideological and political, and threaten to undermine the convention as an evidence-based and coordinated mechanism for conserving threatened species. Isolationist policies and politically motivated compromises will help neither elephants nor people in an interdependent world facing common environmental challenges needful of harmonized agendas and scaled-up cooperation.

1. Introduction

Transfrontier management of wildlife populations has been recognized as best practice in conservation for some three decades (Vasilijević et al., 2015) with the realities of animals' dispersal movements and “zones of influence” preferred over human-centric “zones of management” approaches (Linnell and Boitani, 2012; Delsink et al., 2013; Selier et al., 2016a, 2016b). Motivating factors in transboundary thinking include enhanced protection of viable wildlife populations as well as wildlife-based revenue generation through tourism circuits that link sites in neighboring countries (Vasilijević et al., 2015). African elephants, while not unique in their mobile nature, are compelled by their extreme size to range over significantly larger areas of land than

most other species. A key threat to their survival in the longer term is habitat fragmentation and blockage of dispersal routes by human activities, and solutions lie in maintaining and protecting connections between populations within and, inevitably, between countries through coordinated trans-national approaches to their conservation.

The crisis currently of highest concern to elephant survival is international wildlife crime, notably elephant poaching to supply the international ivory trade, facilitated by nations' globalized interdependence. The primary mechanism that governs international trade in endangered species is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and it is in CITES that some of the solutions to illegal elephant killing and international ivory trading must be sought. The Convention provides for two levels of

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protection from over-exploitation under trade: Appendix II, which allows a regulated trade under a permit system based on quotas; the stricter Appendix I, which prohibits all international commercial trade. In the case of disagreements between countries over the degree of threat posed by trade to species occurring within their national boundaries, the possibility of CITES split-listings has emerged; four African countries currently list their elephants on Appendix II while the remaining 33 range States list theirs on Appendix I.

The decline in elephant numbers has recently been documented by the Great Elephant Census (GEC; Chase et al., 2016) and in the African Elephant Status Report of 2016 (AESR 2016) produced by the IUCN/SSC African Elephant Specialist Group, and rates of poaching and ivory seizures in reports by the Monitoring the Illegal Killing of Elephants (MIKE) and Elephant Trade Information System (ETIS) programs. According to the GEC, between 2007 and 2014, Africa's savanna elephant numbers plummeted by at least 30%. Forest elephant populations declined by over 60% between 2002 and 2011 (Maisels et al., 2013) and in some regions, poaching has driven their decline to up to 80% (Poulsen et al., 2017). The international nature of this threat is well-documented by studies of the global scale and rapid transit of illicit ivory (Cerling et al., 2016), the “neighborhood effects” of elephant declines in adjacent countries (Frank and Maurseth, 2006), and insecurity posed by poaching groups that fails to be contained by political boundaries. Examples of transfrontier trouble spots include Minkébe, on the Cameroon-Gabon border (Poulsen et al., 2017), and Garamba, at the borders of Democratic Republic of Congo (DRC) and South Sudan (African Parks, 2016). As a result, many elephant conservation projects now explicitly incorporate joint transboundary actions and commitments by multiple governments and state actors into their scopes of work.

In this paper we provide an analysis of data on elephant population sizes and distributions found in the AESR 2016 (Thouless et al., 2016), along with its narrative summaries, supplemented by results of the 2016 Great Elephant Census, radio-tracking work by the Botswana-based NGO Elephants without Borders, and observations by other experienced colleagues. We use these data to demonstrate that the majority of Africa's elephants live in transboundary areas, with relatively few strictly “belonging” to individual countries.

We emphasize the importance of transboundary thinking for conservation of African elephants, and how it should be reflected in reformed approaches in the operation of MEAs such as CITES. We discuss the issues emerging from the tension between nationalistic approaches to nature conservation and the emerging awareness of connectedness and the governance opportunities, as well as challenges, in the conservation of Africa's elephants. Finally we focus on CITES and how application of rigid criteria for Appendix listings based on political boundaries and national management units ignores ecological reality and life history, and misses opportunities for achieving effective conservation gains and fostering enduring transboundary and transregional alliances.

2. Transboundary conservation and elephant management

The concept of transnational management cooperation has been well established for marine species of many taxa and for terrestrial species such as migratory birds (embodied, for example, in the Migratory Bird Treaty signed by the USA and Canada a century ago) and gorillas (e.g., Treaty on the Greater Virunga Transboundary Collaboration signed in 2015; also see UNEP-CMS, 2007). Among other initiatives concerning transboundary conservation in Africa, a significant development has been the Transfrontier Conservation Area (TFCA) programme of the Southern African Development Community (SADC, 2013), a regional economic grouping of 15 member states. By 2013, five TFCAs had been established by treaty or other instrument, six were considered “emerging” with memoranda of understanding signed, and a further seven had been proposed.

The TFCA approach is now receiving international development assistance in all regions of Africa, particularly from the USA, Germany and the European Union (EU). In a continent-wide study and strategic plan (European Union, 2016), the EU identified Key Landscapes for Conservation (KLCs), composed of important protected areas embedded in areas of potentially compatible land use, that include intact ecosystems with populations of elephants as well as other significant species and habitats; the majority of these KLCs are in transboundary areas.

Many savanna elephants have large ranges and highly migratory-nomadic examples are found in Mali (Wall et al., 2013), Botswana (Chase, 2007), and Namibia (Lindeque, 1995), where surface water is scarce and where herds traverse borders on an annual or seasonal basis. The forest elephants of Central Africa are less constrained by habitat loss, as deforestation rates are relatively low (Hansen et al., 2011), but fragmentation of range occurs as extractive hunters and road networks penetrate ever further into forests (Blake et al., 2008; Poulsen et al., 2017). The importance of connectivity is growing as climate change increases the variability of seasonal food and water distribution, forcing elephants to travel ever farther for resources.

As the majority of Africa's protected areas are located at or near borders, away from country centers – a legacy of colonial rule, when the majority of areas protecting wildlife habitat were established at the fringes of national territories (Vasilijević et al., 2015) – elephants are often not confined within geopolitically separate, isolated populations. National elephant population estimates are compromised by this fact, and it has been acknowledged that savanna elephants can be double- or under-counted if surveys in boundary areas are not planned to coincide (Blanc et al., 2007). Although forest elephants are now concentrated mostly in central and coastal Gabon and north-central Republic of Congo (Maisels et al., 2013) there are several landscapes where they have been recorded crossing international borders between adjacent protected areas (Blake et al., 2001, 2008).

The benefits of facilitating elephants' cross-border movements include maintenance of meta-population processes (van Aarde and Jackson, 2007) and functional connectivity (Roever et al., 2013), allowing density-dependent dispersal from areas of high to lower local density to occur, helping reduce human-elephant contact, and promoting ecological processes including long-distance seed dispersal. Intensive, disruptive, and expensive management to exert control over local elephant densities, such as water provisioning, immunocontraception, and culling (or even more controversially, sale of live elephant calves to countries outside Africa), can be avoided if more natural processes of habitat choice and movement are maintained.

It is thanks to elephants' cross-border movements that former sink habitats have been repopulated in the past. Following the 1989 international ivory trade ban, the recovery of Uganda's depleted elephant numbers was greatly facilitated by cross-border movements from eastern DRC; movements in the other direction are now reported (WCS, 2015). A famous historical example is the repopulation during the early 20th century of the heavily hunted area that is now Kruger National Park, South Africa, by elephants from neighboring Mozambique (Carruthers et al., 2001). After the end of the civil war in Angola, elephants returned across the border from Botswana, Namibia, and Zimbabwe (Chase and Griffin, 2011).

There have also been translocations of elephants between source and sink habitats for management purposes. Several non-border, insular populations of elephants contain individuals transferred from cross-border populations, for example, Pilanesberg National Park and Game Reserve, with elephants from Kruger National Park (Carruthers et al., 2001). Some translocations have removed elephants from “crowded” areas like Shimba Hills, Kenya, moving them to larger areas such as Tsavo National Park, connected to cross-border protected areas (Pinter-Wollman et al., 2009).

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