



RESEARCH ARTICLE



Elephants as refugees

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Abstract

1. Habitat loss and climate change are displacing animals at alarming rates. In response, authors in the humanities and the sciences have described animals rhetorically as 'refugees'. Such a description implies a strong call to action.
2. However, the term 'refugee' may serve as more than mere rhetoric, indicating in a more literal way the response most proper to some persecuted, traumatized and displaced animals, and prioritizing those animals.
3. We test the claim that animals can be refugees using widely accepted criteria in the Refugee Convention. If refugees are those who, due to a well-founded fear of persecution for reasons of their group identity, are unwilling or unable to avail themselves of the protection of their country, then some animals may be refugees. Recent behavioural research on African elephants *Loxodonta africana* demonstrates that many elephants meet the criteria, even without recourse to the claim that they are persons.
4. We outline the essential requirements of an animal refugee policy. We find that current biodiversity conservation policy is likely inadequate to provide for animal refugees, although important lessons can be taken from the collective experience of conservation scientists and managers.
5. An obligation to animal refugees poses new challenges, both theoretical and practical, for ecological restoration, conservation and human–animal relations.

KEYWORDS

African elephant conservation, animal refugee, animal rights, animal sovereignty, animal welfare, *Loxodonta africana*, PTSD, translocation

1 | INTRODUCTION

Elephants in Africa are in crisis and the scale of this crisis is astounding: the population prior to European colonization was in the tens of millions but by 1989 had been reduced to some half a million animals (Chase et al., 2016). Following the international ban on ivory

trading in 1989, there was a brief period of population increase but overall the decline has continued. A recent continent-wide census of elephant populations has revealed a reduction in elephant populations of 8% per year between 2010 and 2014, a trend still driven by poaching for ivory (Chase et al., 2016). While the details are less well quantified, Asian elephants are also very likely in decline (Calabrese

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et al., 2017; Choudhury et al., 2008). These population declines, coupled with widespread displacement by violent human conflict, the destruction of suitable habitat and the uncertainties of a changing climate, make it clear that urgent action is required to prevent the extinction of elephants in the wild.

While these statistics indicate a great tragedy in terms of elephant conservation, there is more when we consider the lives of the surviving elephants. Elephants are social, intelligent and emotional beings. For example, they show concern for distressed and deceased individuals, discriminate between hundreds of conspecifics and have been shown to pass the mirror self-recognition test (Douglas-Hamilton, Bhalla, Wittemyer, & Vollrath, 2006; McComb, Moss, Durant, Baker, & Sayialel, 2001; Plotnik, Waal, & Reiss, 2006). As a result, there are social, psychological and environmental dimensions to elephant welfare just as there are for human welfare (Bradshaw & Schore, 2007; Meehan, Mench, Carlstead, & Hogan, 2016; Shannon et al., 2013). Given that elephants (and many other animals) share some of the same concerns and experiences as humans, they may fall under some of the same moral categories as humans and be due similar forms of moral consideration. Here we present a case for treating some elephants as refugees.

2 | WHO IS A REFUGEE?

The primary international legal instrument for refugees is the United Nations (UN) Convention Relating to the Status of Refugees ('the Refugee Convention'). The Refugee Convention was originally restricted in scope to persons fleeing the effects of World War II. In 1967 the definition of refugee was amended to include any person who

...owing to well founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. (Article 1A(2))

The Refugee Convention criteria were developed from a tradition of moral theory and jurisprudence focussed on human rights. With more than 140 signatory States, they remain near-universally recognized. Nonetheless, there is a live debate about whether these legal criteria are more restrictive than their moral counterparts. Following Shacknove (1985), several theorists have argued that the needs of those displaced by natural disasters and climate change, or of those caught in the crossfire of warring parties, are no less critical than the needs of the persecuted; thus refugee status should be extended past the persecuted (Gibney, 2018 and citations therein). Others have argued that the legal criteria are appropriately restrictive on both moral and prudential grounds (e.g. Cherem, 2016).

For the purposes of this analysis we take the conservative position as a starting point. We also suggest that in its original sense, as denoting persons fleeing from war or persecution, the term 'refugee' carries a moral loading derived from this provenance: people driven forth from the country in which they could claim a moral place and to which they could appeal for moral support and recognition, were thrown upon the mercies of a world which until that point had owed them nothing. The term 'refugee' implicitly articulates a moral appeal to that world to make a new moral place for them. The legal definition of the term, as set out in the Refugee Convention, preserves this implicit moral appeal. Accordingly, we adopt the legal criteria spelt out in that definition as our criteria for refugeehood in a moral sense: a refugee in this sense is one who is displaced due to a well-founded fear of persecution; is outside of their country; and is unable or unwilling to avail themselves of the protection of that country. We argue that it takes no stretch of the imagination to show that many elephants meet those criteria: they 'have a country' in the relevant sense; they have a fear of persecution; they are displaced by that fear; and they cannot return to their country or will not due to their fear.

3 | QUALIFICATIONS

A few qualifications need to be made at the outset. First, in treating animals as refugees we are not intending to deflect attention from the plight of human refugees. Concern for our fellow creatures goes hand in hand with concern for other humans. Second, we do not claim that human refugee policy and law should be simply extended to animals. Any future animal refugee policy would need to be constructed from the ground up, with one eye on the successes and failures of human refugee frameworks. Third, although we shall focus on wild elephants, specifically wild African elephants, we nevertheless acknowledge the welfare problems faced by elephants generally, including those in captivity. Moreover, there are probably many other examples of animal refugees but we have found none where the case has been so clear-cut and the need for action so urgent. Lastly, though the proposal to treat elephants as refugees is likely to invite many objections, we have space here to address only a short selection. The argument outlined below is not intended as a fully defended position but rather as a cue for further work that may inform and motivate conservation and welfare initiatives.

4 | FEAR OF PERSECUTION

Given the rate of poaching-driven population decline outlined above, there is little doubt that wild elephants in Africa are being persecuted. While some population decline is due to human encroachment on elephant habitat and some is due to conflicts between humans and elephants competing for resources, much of it is the result of targeted killing specifically for ivory. Many

African elephants are thus being persecuted 'for reasons of' their species—for reasons uniquely to do with the fact that they are elephants.

This is not to say that all elephants fear persecution by humans nor that all persecuted elephants are refugees. It is rather to observe that nearly all elephants are capable of the relevant well-founded fear and that some elephants experience it. While some wild elephants are relatively comfortable being close to humans, and while elephants and humans can coexist under the right circumstances (Hoare & Du Toit, 1999), there is strong evidence that many wild elephants are now avoiding human activities in general and make particular efforts to avoid human hunters (Foley, Papageorge, & Wasser, 2001; Goldenberg, Douglas-Hamilton, & Wittemyer, 2018). Referencing several studies, Selier, Slotow, and Minin (2015) point to evidence that elephants

...have been found to use space in a manner that reduces contact with humans, for example, by altering their drinking behaviour ... avoiding areas close to human settlements ... adopting different day-time and night-time behaviour ... increasing their rate of movement ... and leaving areas entirely when human densities reach a certain threshold...

In some cases, elephant fear is extreme. It has recently been recognized that those elephants who experience anthropogenic traumas such as culls, poaching, herd manipulation, habitat fragmentation and translocation go on to display highly unusual behaviours indicative of complex post-traumatic stress disorder (PTSD). These behaviours include interspecies hyper-aggression, non-consensual interspecies sex, interspecies mortality, decreased affiliative behaviour, nervousness, poor mothering and infant neglect, apathy, diminished social skills and a lack of birth-helping (Bradshaw & Schore, 2007). The effects of anthropogenic trauma can have long-term and inter-generational effects on elephants (e.g. Goldenberg et al., 2018). Diagnosing animals with human-derived psychiatric disorders is controversial but regardless of whether these diagnoses are appropriate, the fear indicated by the symptoms is very real and the causation is clear.

This fear must be distinguished from the more general stresses of elephant life, such as the fear of predation. There are few predators of elephants and non-human predation generally occurs at low rates compared to smaller herbivorous mammals (Owen-Smith, 1988). Nevertheless, elephants do occasionally fall victim in the wild to predator attacks and these attacks may be as brutal for the victim as the attack of a poacher. But survivors and their kin, like wildlife generally, seem to retain psychological stability in the wake of such ordeals: the behaviours that have prompted diagnoses of PTSD are demonstrably abnormal (Bradshaw & Schore, 2007). That wild elephants are now exhibiting such symptoms suggests that they believe they are under siege, that they are in an extreme and deranged situation or a situation which is against the natural order, as they understand that order. This chronic stress and fear can be expressed

in refuge-taking behaviour even in the absence of an immediate threat, many years after the trauma (Goldenberg et al., 2018). The difference between traumatized elephants and others suggests that elephants respond differently to severe anthropogenic traumas, such as poaching or translocation, than they do regular, non-human predation.

5 | ELEPHANT COUNTRY

The remainder of the UN's definition of 'refugee' hinges on an account of belonging and exclusion: a refugee must have a country and be excluded from it. There are two options for this last criterion: the more stringent version is that a refugee 'is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country'. The final phrase of Article 1A(2) replaces 'nationality' with 'habitual residence' and the notion of availing oneself of protection with the simpler notion of returning to that country of residence. If elephants can meet the more stringent version then the weaker is also met, so we will address only nationality. This approach requires a broadening of the concepts of nationality and country to include non-human ways of belonging.

We suggest that relationships of belonging that may hold between a country and an individual or group are not exclusively the province of *Homo sapiens*. There are various arguments available to support a claim that elephants belong to places and that places belong to elephants: some theorists argue that sovereignty or self-rule can properly be ascribed to wildlife populations and that as sovereign agents, members of those populations are morally entitled to their own territories (Donaldson & Kymlicka, 2011; cf. Hadley, 2015; Mathews, 2016). Mathews (2016), for example, argues that sovereignty is a consequence of the fact that wild animals are the authors of their own existence—they in no way owe their existence or their nature to us; through evolutionary time they have also been actively adapting and sculpting their territories to their own needs, thereby becoming in a real sense the authors of those territories, which in turn shape and adapt the animals themselves. At the scale of the ecosystem, this is conspicuously true for elephants, whose role as ecosystem engineers has been well documented (e.g. Bakker et al., 2016). While elephant activity has contributed to the character of their ecosystems, those ecosystems have in turn contributed to elephant character, both in terms of evolutionary history and in terms of individual development. Since species, populations and individuals are all shaped by, and shape, the territories they occupy, whether on evolutionary, generational or developmental time-scales, those territories can indeed be said to belong (non-exclusively) to the wild animals in question. These territories may be said to belong to animals in something like the sense in which the territory of a nation belongs to the peoples who have been born and bred therein, and whose lives have over generations shaped and been shaped by that territory. In this sense

elephants may be said to have countries to which they belong and from which they might be excluded.

6 | EXCLUSION

There are numerous cases in which elephants cannot or are unwilling to avail themselves of the protection of their country due to their fear of persecution. A salient example is that of south-eastern Angola. During the Angolan civil war, beginning in 1980, populations of elephants in the southeast of that country were decimated and the ivory was used to pay for arms. Estimates of the numbers of elephants killed or displaced range from thousands to hundreds of thousands, with particular reference to the Luiana Partial Reserve in which the Angolan separatist military force had its headquarters (Chase & Griffin, 2011). Chase and Griffin (2009) report that many elephants were probably displaced south into Namibia and Botswana, their plight exacerbated by the erection of wildlife fences and other human activities. By the end of the war in 2002 there were few, if any, remaining elephants in Luiana Partial Reserve. Almost immediately following the cessation of violence, aerial surveys and telemetry revealed a large increase in numbers as elephants recolonized south-eastern Angola (Chase & Griffin, 2011). Lindsay, Chase, Landen, and Nowak (2017) report that between 2002 and 2009

...Botswana's refugee elephants were recorded as moving back to southeastern Angola, repopulating their ancestral homeland. But with increased poaching, starting in 2010, cross-border movements have declined by up to 85%. Many elephants are no longer embarking on these epic transboundary migrations... In recent times elephants have once again sought refuge, and as a result are more resident, in Botswana.

Elephants choose to avoid dangerous areas, sometimes for many years (Jachowski, Slotow, & Millspaugh, 2012). In other cases, elephants are restricted in their movements by anthropogenic barriers, such as wildlife fencing (Loarie, Aarde, & Pimm, 2009). It is clear that some persecuted elephants are unable to avail themselves of the protection of their country and are, in some cases, unwilling due to their fear of persecution.

7 | ANIMAL AND HUMAN REFUGEE POLICIES

Clearly, new policies, laws, agreements and institutions (henceforth, 'policies') would be required to assist animals who qualify as refugees. Extending existing human refugee policies to animals would be theoretically and practically inadequate: any animal refugee policy must be built from the ground up. Nonetheless, we may use the ideal principles of human refugee policy as a starting point.

It is widely agreed that human refugees need or are owed protection from the dangers that have displaced them, realized in the principle of *non-refoulement*. We take three further principles to be essential: (a) The maintenance of basic rights and needs while awaiting new permanent living arrangements; (b) A 'durable solution' for flourishing in a new place, where this in practice means new citizenship; (c) Distributive justice between nations: there should be a fair allocation of the burdens and benefits of assisting refugees. While the first of these principles is enshrined in international law, the others remain, to some degree, aspirational.

These principles translate well to wildlife: Refugee animals should be protected from being sent back into danger or from being turned away from their first place of refuge. There should be provision for ensuring their care and protection in this initial place of refuge. Their basic rights must be upheld and their basic needs fulfilled until a permanent solution for their flourishing is provided. They should be given an opportunity to flourish in situ or translocated to a new situation in which they will have a chance to flourish. All these requirements must be considered alongside the rights, needs and capacities of the receiving communities. Justice is also owed to them.

While the basic elements of an ideal scheme for assisting human refugees may be easily translated to animals, its implementation would face some challenges. For example the Refugee Convention was grounded in a broadly accepted tradition of human rights, whereas the tradition of animal rights has enjoyed far less widespread acceptance. Convincing people to set aside resources for the interests of individual wild animals may be difficult. Secondly, the Refugee Convention and its attendant institutions are predicated on a system of citizenship, statehood and international law. To what degree the moral duties owed refugees can be divorced from those systems is an open question. For example while human refugee law is focussed on the individual and their family, some animals like elephants may need to remain in larger social groups to flourish. Also, the question of whether animals should be recognized as citizens of human States, or even of their own sovereign nations (Donaldson & Kymlicka, 2011), will have bearing on which rights of animal refugees are recognized and which parties are obligated to assist them. Lastly, there are large failures of the current human refugee framework that would need to be avoided. For example millions of refugees have been in exile for more than 5 years and remain without a decent resettlement option (UNHCR, 2019). Arguably, the focus on *non-refoulement* and a failure to agree on and implement resettlement policies has prevented the provision of 'durable solutions' and a fair allocation of refugees between States (Gibney, 2015). This last point raises one further requirement for any successful animal refugee policy: fair international cooperation based on a recognition of shared responsibility.

8 | INTERNATIONAL COOPERATION

In 2016, all the Member States of the UN, including those that have not signed the Refugee Convention formally recognized 'the burdens

that large movements of refugees place on national resources, especially in the case of developing countries' and committed to 'a more equitable sharing of the burden and responsibility for hosting and supporting the world's refugees, while taking account of existing contributions and the differing capacities and resources among States' (United Nations General Assembly, 2016, paragraph 68). There is a higher order principle that is particularly relevant here: caring for refugees is a shared responsibility. Durieux (2016, p. 651) argues that the responsibility is not merely distributed but distributed globally: it is 'a concurrent, territorially unbound responsibility, incumbent upon all States'. The plight of animal refugees would also appear to be the responsibility of all States and it calls for international cooperation. However, identification of a global responsibility is insufficient to guide action without some further account of the fair allocation of burdens, benefits and compensation between States (Gibney, 2015).

Apart from the responsibilities of States to refugees, the inherent moral charge of the term 'refugee', at least in its original sense, ensures that the plight of a refugee makes a call upon anyone who can provide help. This moral call motivates international non-government organizations to assist human refugees and it might do the same for non-human refugees, mobilizing philanthropic organizations to assist animals on more morally complex and compelling grounds than on the grounds of conservation alone.

Construing animals such as elephants as refugees might also strengthen initiatives that seek to broaden the moral compass of conservation by considering particular species in more than biodiversity terms. The World Heritage Species project is such an initiative. Since 2001, various stakeholders have been gathering support for a proposal to establish a new UNESCO World Heritage category, namely that of World Heritage Species (Wold, 2007). Criteria for World Heritage Species status include the cultural significance of the species in question to humankind as well as its ecological significance. Under this proposed category, the protection of selected species would become the legal responsibility of the international community (Wold, 2007; Wrangham et al., 2008). We consider it very likely that elephants would meet the relevant criteria, making elephants as a species a candidate for World Heritage status and hence for international protection.

9 | ANIMAL REFUGEES AND WILDLIFE CONSERVATION

We are unaware of any legislation explicitly acknowledging animal refugees. Such legislation is unlikely to be forthcoming in the near future. Instead, the contemporary aegis under which wildlife is protected is conservation policy, with some contribution from animal welfare policy. To what degree can conservation policy be mobilized to protect animal refugees? There are clear opportunities: Providing asylum has natural parallels with the management of protected areas. Resettlement is akin to conservation translocation. Conservation scientists and wildlife managers have a wealth of

practical experience in assisting wildlife to flourish through international cooperation, establishing and managing protected areas, promoting coexistence between animals and humans, and translocating animals between social-ecological communities. The conservation experience also highlights future challenges for assisting animal refugees: animals and humans often come into conflict and some conservation policy precludes animal translocations.

International cooperation has been considered best practice in conservation for some decades as evinced, for example, in the 1973 Convention on International Trade in Endangered Species of Wild Fauna and the 1992 Convention on Biological Diversity. The potential benefits of international cooperation are well recognized, if less widely actualized (Chapron et al., 2014). In the case of African elephants, Lindsay et al. (2017) point to the necessity for transcending nation-focussed conservation policies, as elephants may travel thousands of kilometres each year, often across international borders, with most elephants living in transboundary populations. There are several success stories of international cooperation in conservation, including the recovery of large carnivores and birds in Europe (Chapron et al., 2014; Donald et al., 2007) and fish in the North Atlantic (Fernandes & Cook, 2013).

For many animal refugees, protection would mean leaving them alone in safe places with sufficient resources to take care of themselves, that is sanctuaries. In this respect, protection of refugees would follow the model of conservation, since the establishment and management of protected areas, particularly in wilderness areas, remains a cornerstone of biodiversity conservation (Di Marco, Ferrier, Harwood, Hoskins, & Watson, 2019; Phalan, Onial, Balmford, & Green, 2011). An important lesson that animal refugee policy could draw from conservation is that the successful establishment and management of protected areas often rests on the support of local communities (Watson, Dudley, Segan, & Hockings, 2014).

Local community support is also vital for protecting wildlife. Many animals, especially large animals, can be difficult to live alongside. For example human-elephant conflict has been well documented (cf. Hoare & Du Toit, 1999; Naughton, Rose, & Treves, 1999) and the re-establishment of wolf *Canis lupus* populations in North America has generated resentment among ranchers (Naughton-Treves, Grossberg, & Treves, 2003). On the other hand, people and large animals can successfully share landscapes (e.g. Chapron et al., 2014), an arrangement discussed in the conservation literature as 'coexistence' (e.g. Boitani & Linnell, 2015; Carter & Linnell, 2016; Hoare & Du Toit, 1999).

Some animal refugees will require translocation. Moving animals between social-ecological communities is a familiar practice for many conservationists. Conservationists move animals for species reintroduction, ex situ conservation, population reinforcement and, more recently, for restoring ecosystems. The experience of translocation in conservation suggests that there may be certain barriers to the translocation of animal refugees. First, conservation policies rarely give protection to 'non-native' species. For example wild Banteng (*Bos javanicus*) in the north of Australia receive

little or no protection under conservation law, despite their status as an endangered species and despite evidence that they have integrated into their adopted ecosystem (Bradshaw, Isagi, Kaneko, Bowman, & Brook, 2006; Gardner, Hedges, Pudyatmoko, Gray, & Timmins, 2016). Furthermore, in order to shield biological communities already in place, protected area legislation and policy often have mechanisms to prevent the introduction of new species, even if they are native to nearby and/or ecologically similar places. Second, although many species face extirpation in their historical range, for example due to climate change or habitat loss, and suitable habitat for them may exist elsewhere (Hoegh-Guldberg et al., 2008), there are few or no legal mechanisms to allow for conservation introductions across political boundaries (McCormack, 2018). A final challenge is that animal welfare and conservation policy can come into conflict: conservation is focussed on protecting environmental collectives and entities, such as species and ecosystems, rather than the interests of individual animals (Wallach, Bekoff, Batavia, Nelson, & Ramp, 2018).

One source of optimism is the relatively new practice of rewilding. Trophic rewilding is of particular interest as it focusses on the restorative benefits to ecosystems of newly introduced species, including elephants (Bakker & Svenning, 2018; Svenning et al., 2016). This optimism runs up against the common wisdom among ecologists that newly arrived species represent an ecological risk (Nogués-Bravo, Simberloff, Rahbek, & Sanders, 2016; Schlaepfer, Sax, & Olden, 2011; Simberloff, 2011). As rewilding research continues, it will provide important information on how best to integrate new species into communities. There are parallels here with appreciation of the benefits of human refugees to their receiving communities, as opposed to a focus merely on the burdens they bring. Humans have enough in common with one another that our communities can adapt to and prosper from an influx of refugees: refugees often integrate well. This might be taken as a source of optimism for animal refugees.

10 | CONCLUDING REFLECTIONS

To conclude on a brief theoretical note, we are suggesting in this paper that in responding to the specific plights of different animals in a world in which so many animals are in so many different kinds of danger, it might be helpful to adapt relatively concrete though morally charged concepts that pick out specific situations in which people find themselves, and consider whether these concepts might also be applied to animals in the same circumstances. Others have applied the term 'refugee' to animals as a mode of rhetoric or as an illustrative analogy. Notably, Switzer and Angeli (2016) describe an extended analogy between human refugees and endangered species. In contrast, our approach has been to use the term relatively literally. To do this does not require presuppositions as to whether the animals in question satisfy higher-level, more abstract or 'thin' moral categories, such as that of personhood, that would confer on them across-the-board moral equivalence with humans. Ours

is a more piecemeal approach. Starting with richly descriptive yet nevertheless morally charged concepts, such as that of refugeehood, we envisage that a more differentiated picture of entitlement for different species of animal might be built up out of mosaics of such 'thicker' moral concepts. Other examples of such concepts that might apply to some animals, whether or not the animals in question are considered persons, are 'slave', 'citizen', 'fellow creature' or 'friend' (Diamond, 1978; Donaldson & Kymlicka, 2011; Hadley, 2012; Townley, 2010). Proceeding in this way it might be possible to capture some of the immense moral richness of the natural world, the very different moral responses that different types of being might properly elicit from us in specific situations. In this way we might avoid resorting to traditional hierarchical models of moral entitlement resting on the assumption that different degrees of moral considerability attach to different species according to their likeness to us in terms of abstract attributes such as rationality or free will.

We have argued then that some animals, notably elephants, may for moral purposes be considered as refugees, with rights to assistance and sanctuary from the international community comparable to the rights of human refugees. Although this proposition doubtless requires critical evaluation and further theoretical development, we hope that it opens a new moral horizon for elephant care and conservation.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS' CONTRIBUTIONS

Both authors contributed to project conception, research and analysis as well as drafting and final approval of the manuscript.

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REFERENCES

- Bakker, E. S., Gill, J. L., Johnson, C. N., Vera, F. W., Sandom, C. J., Asner, G. P., & Svenning, J.-C. (2016). Combining paleo-data and modern enclosure experiments to assess the impact of megafauna extinctions on woody vegetation. *Proceedings of the National Academy of Sciences*, 113(4), 847–855. <https://doi.org/10.1073/pnas.1502545112>
- Bakker, E. S., & Svenning, J.-C. (2018). Trophic rewilding: Impact on ecosystems under global change. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1761), 20170432. <https://doi.org/10.1098/rstb.2017.0432>

- Boitani, L., & Linnell, J. D. C. (2015). Bringing large mammals back: Large carnivores in Europe. In H. M. Pereira & L. Navarro (Eds.), *Rewilding European landscapes* (pp. 67–84). Cham, Switzerland: Springer International Publishing.
- Bradshaw, C. J., Isagi, Y., Kaneko, S., Bowman, D. M., & Brook, B. W. (2006). Conservation value of non-native Banteng in Northern Australia. *Conservation Biology*, 20(4), 1306–1311. <https://doi.org/10.1111/j.1523-1739.2006.00428.x>
- Bradshaw, G. A., & Schore, A. N. (2007). How elephants are opening doors: Developmental neuroethology, attachment and social context. *Ethology*, 113(5), 426–436. <https://doi.org/10.1111/j.1439-0310.2007.01333.x>
- Calabrese, A., Calabrese, J. M., Songer, M., Wegmann, M., Hedges, S., Rose, R., & Leimgruber, P. (2017). Conservation status of Asian elephants: The influence of habitat and governance. *Biodiversity and Conservation*, 26(9), 2067–2081. <https://doi.org/10.1007/s10531-017-1345-5>
- Carter, N. H., & Linnell, J. D. (2016). Co-adaptation is key to coexisting with large carnivores. *Trends in Ecology & Evolution*, 31(8), 575–578. <https://doi.org/10.1016/j.tree.2016.05.006>
- Chapron, G., Kaczensky, P., Linnell, J. D. C., von Arx, M., Huber, D., Andrén, H., ... Boitani, L. (2014). Recovery of large carnivores in Europe's modern human-dominated landscapes. *Science*, 346(6216), 1517–1519.
- Chase, M. J., & Griffin, C. R. (2009). Elephants caught in the middle: Impacts of war, fences and people on elephant distribution and abundance in the Caprivi Strip, Namibia. *African Journal of Ecology*, 47(2), 223–233. <https://doi.org/10.1111/j.1365-2028.2008.01017.x>
- Chase, M. J., & Griffin, C. R. (2011). Elephants of south-east Angola in war and peace: Their decline, re-colonization and recent status. *African Journal of Ecology*, 49(3), 353–361. <https://doi.org/10.1111/j.1365-2028.2011.01272.x>
- Chase, M. J., Schlossberg, S., Griffin, C. R., Bouché, P. J., Djene, S. W., Elkan, P. W., ... Landen, K. (2016). Continent-wide survey reveals massive decline in African savannah elephants. *PeerJ*, 4, e2354. <https://doi.org/10.7717/peerj.2354>
- Cherem, M. (2016). Refugee rights: Against expanding the definition of a “refugee” and unilateral protection elsewhere. *Journal of Political Philosophy*, 24(2), 183–205. <https://doi.org/10.1111/jopp.12071>
- Choudhury, A. L., Choudhury, D. K., Desai, A., Duckworth, J. W., Easa, P. S., Johnsingh, A. J. T., ... Wikramanayake, E. (2008). *Elephas maximus*. The IUCN red list of threatened species 2008: e.T7140A12828813. Retrieved from <https://doi.org/10.2305/IUCN.UK.2008.RLTS.T7140A12828813.en>
- Di Marco, M., Ferrier, S., Harwood, T. D., Hoskins, A. J., & Watson, J. E. M. (2019). Wilderness areas halve the extinction risk of terrestrial biodiversity. *Nature*, 573(7775), 582–585. <https://doi.org/10.1038/s41586-019-1567-7>
- Diamond, C. (1978). Eating meat and eating people. *Philosophy*, 53(206), 465–479. <https://doi.org/10.7551/mitpress/5797.003.0018>
- Donald, P. F., Sanderson, F. J., Burfield, I. J., Bierman, S. M., Gregory, R. D., & Waliczky, Z. (2007). International conservation policy delivers benefits for birds in Europe. *Science*, 317(5839), 810–813. <https://doi.org/10.1126/science.1146002>
- Donaldson, S., & Kymlicka, W. (2011). *Zoopolis – A political theory of animal rights*. Oxford, UK: Oxford University Press.
- Douglas-Hamilton, I., Bhalla, S., Wittemyer, G., & Vollrath, F. (2006). Behavioural reactions of elephants towards a dying and deceased matriarch. *Applied Animal Behaviour Science*, 100(1), 87–102. <https://doi.org/10.1016/j.applanim.2006.04.014>
- Durieux, J.-F. (2016). The duty to rescue refugees. *International Journal of Refugee Law*, 28(4), 637–655. https://doi.org/10.1163/2210-7975_hrd-0157-2016003
- Fernandes, P. G., & Cook, R. M. (2013). Reversal of fish stock decline in the Northeast Atlantic. *Current Biology*, 23(15), 1432–1437. <https://doi.org/10.1016/j.cub.2013.06.016>
- Foley, C. A. H., Papageorge, S., & Wasser, S. K. (2001). Noninvasive stress and reproductive measures of social and ecological pressures in free-ranging African elephants. *Conservation Biology*, 15(4), 1134–1142. <https://doi.org/10.1046/j.1523-1739.2001.0150041134.x>
- Gardner, P., Hedges, S., Pudyatmoko, S., Gray, T. N. E., & Timmins, R. J. (2016). *Bos javanicus*. The IUCN red list of threatened species 2016: e.T2888A46362970. Retrieved from <https://doi.org/10.2305/IUCN.UK.2016-2.RLTS.T2888A46362970.en>
- Gibney, M. J. (2015). Refugees and justice between states. *European Journal of Political Theory*, 14(4), 448–463. <https://doi.org/10.1177/1474885115585325>
- Gibney, M. J. (2018). The ethics of refugees. *Philosophy Compass*, 13(10), e12521.
- Goldenberg, S. Z., Douglas-Hamilton, I., & Wittemyer, G. (2018). Inter-generational change in African elephant range use is associated with poaching risk, primary productivity and adult mortality. *Proceedings of the Royal Society B: Biological Sciences*, 285(1879), 20180286. <https://doi.org/10.1098/rspb.2018.0286>
- Hadley, J. (2012). *Can an animal be a slave? The conversation*. Retrieved from <https://theconversation.com/can-an-animal-be-a-slave-5268>
- Hadley, J. (2015). *Animal property rights: A theory of habitat rights for wild animals*. Lanham: MA, Lexington Books.
- Hoare, R. E., & Du Toit, J. T. (1999). Coexistence between people and elephants in African savannas. *Conservation Biology*, 13(3), 633–639. <https://doi.org/10.1046/j.1523-1739.1999.98035.x>
- Hoegh-Guldberg, O., Hughes, L., McIntyre, S., Lindenmayer, D., Parmesan, C., Possingham, H. P., & Thomas, C. (2008). Assisted colonization and rapid climate change. *Science*, 321(5887), 345–346.
- Jachowski, D. S., Slotow, R., & Millspaugh, J. J. (2012). Physiological stress and refuge behavior by African elephants. *PLoS ONE*, 7(2), e31818. <https://doi.org/10.1371/journal.pone.0031818>
- Lindsay, K., Chase, M., Landen, K., & Nowak, K. (2017). The shared nature of Africa's elephants. *Biological Conservation*, 215, 260–267. <https://doi.org/10.1037/e509992015-083>
- Loarie, S. R., Aarde, R. J. V., & Pimm, S. L. (2009). Fences and artificial water affect African savannah elephant movement patterns. *Biological Conservation*, 142(12), 3086–3098. <https://doi.org/10.1016/j.biocon.2009.08.008>
- Mathews, F. (2016). From biodiversity-based conservation to an ethic of bio-proportionality. *Biological Conservation*, 200, 140–148. <https://doi.org/10.1016/j.biocon.2016.05.037>
- McComb, K., Moss, C., Durant, S. M., Baker, L., & Sayialel, S. (2001). Matriarchs as repositories of social knowledge in African elephants. *Science*, 292(5516), 491–494. <https://doi.org/10.1126/science.1057895>
- McCormack, P. C. (2018). Conservation introductions for biodiversity adaptation under climate change. *Transnational Environmental Law*, 7, 323–345. <https://doi.org/10.1017/s2047102517000383>
- Meehan, C. L., Mench, J. A., Carlstead, K., & Hogan, J. N. (2016). Determining connections between the daily lives of zoo elephants and their welfare: An epidemiological approach. *PLoS ONE*, 11(7), e0158124. <https://doi.org/10.1371/journal.pone.0158124>
- Naughton-Treves, L., Grossberg, R., & Treves, A. (2003). Paying for tolerance: rural citizens' attitudes toward wolf depredation and compensation. *Conservation Biology*, 17(6), 1500–1511. <https://doi.org/10.1111/j.1523-1739.2003.00060.x>
- Naughton, L., Rose, R., & Treves, A. (1999). *The social dimensions of human–elephant conflict in Africa: A literature review and case studies from Uganda and Cameroon*. Glands, Switzerland: African Elephant Specialist Group, Human–Elephant Conflict Task Force, IUCN.
- Nogués-Bravo, D., Simberloff, D., Rahbek, C., & Sanders, N. J. (2016). Rewilding is the new Pandora's box in conservation. *Current Biology*, 26(3), R87–R91. <https://doi.org/10.1016/j.cub.2015.12.044>
- Owen-Smith, R. N. (1988). *Megaherbivores: The influence of very large body size on ecology*. Cambridge, UK: Cambridge University Press.
- Phalan, B., Onial, M., Balmford, A., & Green, R. E. (2011). Reconciling food production and biodiversity conservation: Land sharing and land sparing compared. *Science*, 333(6047), 1289–1291. <https://doi.org/10.1126/science.1208742>

- Plotnik, J. M., de Waal, F. B. M., & Reiss, D. (2006). Self-recognition in an Asian elephant. *Proceedings of the National Academy of Sciences of the United States of America*, 103(45), 17053–17057. <https://doi.org/10.1073/pnas.0608062103>
- Schlaepfer, M. A., Sax, D. F. & Olden, J. D. (2011). The potential conservation value of non-native species. *Conservation Biology*, 25(3), 428–437. <https://doi.org/10.1111/j.1523-1739.2010.01646.x>
- Selier, J., Slotow, R., & Di Minin, E. (2015). Large mammal distribution in a transfrontier landscape: Trade-offs between resource availability and human disturbance. *Biotropica*, 47(3), 389–397. <https://doi.org/10.1111/btp.12217>
- Shacknové, A. E. (1985). Who is a refugee? *Ethics*, 95(2), 274–284. <https://doi.org/10.1086/292626>
- Shannon, G., Slotow, R., Durant, S. M., Sayialel, K. N., Poole, J., Moss, C., & McComb, K. (2013). Effects of social disruption in elephants persist decades after culling. *Frontiers in Zoology*, 10(1), 62. <https://doi.org/10.1186/1742-9994-10-62>
- Simberloff, D. (2011). Non-natives: 141 scientists object. *Nature*, 475(7354), 36. <https://doi.org/10.1038/475036a>
- Svenning, J. C., Pedersen, P. B., Donlan, C. J., Ejrnaes, R., Faurby, S., Galetti, M., ... Vera, F. W. (2016). Science for a wilder Anthropocene: Synthesis and future directions for trophic rewilding research. *Proceedings of the National Academy of Sciences of the United States of America*, 113(4), 898–906. <https://doi.org/10.1073/pnas.1502556112>
- Switzer, D., & Angeli, N. F. (2016). Human and non-human migration: Understanding species introduction and translocation through migration ethics. *Environmental Values*, 25(4), 443–463.
- Townley, C. (2010). Animals as friends. *Between the Species*, 13(10), 45–59. <https://doi.org/10.15368/bts.2010v13n10.3>
- United Nations General Assembly. (2016). *New York Declaration for Refugees and Migrants*. New York, NY.
- United Nations High Commissioner for Refugees (UNHCR). (2019). *UNHCR Global Trends 2018*. Geneva, Switzerland: F. I. a. C. S. Section & D. o. P. S. a. Management.
- Wallach, A. D., Bekoff, M., Batavia, C., Nelson, M. P., & Ramp, D. (2018). Summoning compassion to address the challenges of conservation. *Conservation Biology*, 32(6), 1255–1265. <https://doi.org/10.1111/cobi.13126>
- Watson, J. E. M., Dudley, N., Segan, D. B., & Hockings, M. (2014). The performance and potential of protected areas. *Nature*, 515, 67.
- Wold, C. (2007). World heritage species: A new legal approach to conservation. *Georgetown International Environmental Law Review*, 20, 337.
- Wrangham, R. W., Hagen, G., Leighton, M., Marshall, A. J., Waldau, P., & Nishida, T. (2008). The great ape world heritage species project. In P. Mehlman, D. Steklis, & T. Stoinski (Eds.), *Conservation in the 21st century: Gorillas as a case study* (pp. 282–295). New York, NY: Kluwer Academic/Plenum Publishers.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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