

ARTICLE

Elephants and Ivory: Coordinating Natural History Museum Action to Address Wildlife Crime

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INTRODUCTION

Illicit trafficking of wildlife is arguably one of the most serious ethical and operational issues currently facing natural history museums. Wildlife crime, estimated to be worth worldwide as much as US\$23 billion annually (Nellemann et al. 2014), is responsible for the drastic decline and likely extinction of many species, including charismatic ones such as elephants and rhinoceros, as well as many lesser-known groups, such as pangolins (Order Pholidota) and rosewood (e.g. African rosewood *Millettia laurentii*; UNODC 2016). As these species become increasingly rare and efforts to protect them are stepped up, the black market is turning with increasing regularity to museum collections. Ongoing thefts from museums of natural history material, including elephant ivory and rhinoceros horn, are being added to more traditional targets of crime such as gemstones, gold and cultural artefacts.

Rhinos probably pose the biggest theft risk for collecting institutions and are, in some ways, emblematic of the entire situation. In the traditional medicine of some countries (e.g. China and Thailand), the material, keratin, the same as found in horses' hooves or human fingernails, is believed to be a remedy for cancer, HIV, and other blood-borne diseases (Pui-Hay But et al. 1990). Since 2009, sixty-seven rhino horns have

been stolen from museums in countries including South Africa, Ireland, Germany, Portugal, Spain, Italy, England, Belgium, Austria, France, Sweden, and The Netherlands (Higginbotham 2014) and, most recently, in 2015 from five Italian museums, including horns with histories dating as far back as the 17th century.

The belief in arcane powers of rhinoceros keratin endures, despite Chinese research demonstrating that the qualities of the horns of the then still-common (and now critically endangered) saiga antelope *Saiga tatarica*, water buffalo *Bubalus bubalis* and domestic cattle are comparable with, if not superior to, those of rhino horn as an antipyretic remedy (Pui-Hay But et al. 1990). However, rarity and mystique drive the taste for this material and, on the black market, one kilo of horn is estimated to bring \$50,000 (Big Life Foundation 2012).

Irrespective of the risk of theft, illicit trafficking of wildlife is an issue that natural history museums are well-placed to consider. The combined strength of their estimated three billion objects worldwide (Anderson et al. 2016) holds great promise for supporting efforts to help stem the tide of dramatically escalating global biodiversity loss, using specimens as genetic repositories, records of the distributions of populations and zoonoses (see Hooper et al. 2012), and possibly contributing to eventual de-extinction projects (Sherkow and Greely 2013). Given

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too that specimens in museum collections have largely been taken from nature, conservation efforts can also be viewed as an ethical responsibility (International Council of Museums 2013; Dorfman 2016). There is growing awareness amongst collecting institutions of the ethical responsibility to “give back” to the natural populations from which their specimens derive.

In 2013, the International Council of Museums (ICOM) published its *Code of Ethics for Natural History Museums*, which set out a framework for responsible action. This was emphasized in 2015 by the ICOM Committee for Museums and Collections of Natural History (ICOM NATHIST) releasing its Taipei Declaration on Natural History Museums and Biodiversity Conservation, which stated that “to achieve best practice, natural history museums take action to conserve natural habitats and populations” (ICOM NATHIST 2015).

Humans have been making use of the products of elephants and other proboscideans for at least the last 28,000 years, coincident with the earliest forms of body adornment known (Walker 2010). This marks the beginning of a long history of human impacts on the group. An estimated 50,000 Asian elephants *Elephas maximus* currently exist in the wild, a drop of 50% since the beginning of the 20th century (WWF, 2017). As of 2016, there were an estimated 415,000 African elephants *Loxodonta africana* in the wild, decreased through human activity by at least 104,000 since 2007 – i.e. a loss of 20% of the existing population in a period of 7 years – (Thouless et al. 2016), from and original, pre-European population of at least 20 million individuals in the 1500s (Douglas-Hamilton 1987). During the 18th and 19th centuries, an estimated 30,000 tons of ivory were shipped from Africa into the United Kingdom alone (Lau et al. 2016). In other words, since 1513, when Henry VIII

played on one of his ivory and gold recorders (Starkey 1998), 98% of African and a great proportion of Asian elephants have been exterminated. While many issues are at play, including social justice in source regions, the fact that most elephant populations face imminent collapse makes it imperative that action is taken.

Many natural history museums contain ivory that is the result of humanity’s millennia-long exploitation of elephants. Ivory can still be associated with the original elephant, part of a taxidermy collection displayed in a habitat diorama (e.g. Natural History Museum of Los Angeles County), on prominent display in the front foyer (e.g. The Smithsonian Institution in Washington D.C. and the Field Museum in Chicago), or featured illustrating other topics (e.g. *Muséum national d’histoire naturelle* in Paris and the *Naturhistorisches Museum* in Vienna). Elsewhere, like Carnegie Museum of Natural History, features in the skeletons of fossil North American mammoths *Mammuthus primigenius* and as disembodied trophies from historic big game hunting. It also appears at the Carnegie Museum of Natural History in artifacts within the Walton Hall of Ancient Egypt and as part of a 19th century Japanese sculpture of an eagle, with ivory feathers over a wooden base. In most cases, the animals or animal material on display came from the wild, taken during times when perspectives, and the threat to the species, were different. Notwithstanding some notable exceptions (e.g. Shanghai Museum of Natural History, Cai 2014), specimens that today come to natural history museums are from zoos or collected sustainably as part of bona fide research programs.

Natural history museums are changing, both because of their own internal development and in response to the demands of their operating context, thinking much more about issues of visitor-centricity, personal and cultural identity

and relevance (Falk 2016). Looking forward, institutions that interpret biodiversity and natural landscapes will be increasingly called upon to address real-world issues like wildlife crime and this will be an increasingly fundamental part of these conversations. This topic presents both challenges and opportunities, leveraging the credibility and good-will that natural history museums enjoy as both public-facing and scientific institutions (Novacek 2008). In this paper, I review what has been and is being done by natural history museums to combat the illicit ivory trade. I also discuss the ICOM NATHIST white paper *Natural History Museums and Wildlife Trafficking: A Framework for Global Action* and explore what could be accomplished by natural history museums with greater coordination across the sector.

RESEARCH

On July 6, 2016, the US Fish and Wildlife Service issued revised rules related to *Loxodonta africana*, explicitly describing a near-total ban on commercial trade in African elephant ivory in the United States.¹ Six months later, China committed to do the same, ending the legal ivory trade in the PRC.² Despite the 1989 CITES agreement, many countries with elephants continued to lose them (Lemieux and Clarke 2009). The 2016 Chinese commitment to end import and processing of ivory perhaps thus spells the first real hope for the species in almost 30 years. Most importantly for those organizations and individuals who are committed to making a difference to elephants, there is an unprecedented opportunity to affect change.

One change that might be predicted is that black market demand for ivory will increase, along with the price of illicit goods and the sophistication of subterfuge practices. For

instance, new, artificially distressed objects might be increasingly passed off as antiques, or as fabricated from another sort of natural material. This is already a standard practice (Espinoza et al. 1992). Institutions like natural history museums, with expertise in testing the age of biological materials, could be even more valuable than they currently are in identifying contraband along black market trade routes. Refining detection techniques, as well as understanding the nuances of trade is a task undertaken by intergovernmental organizations (e.g. CITES 2011; INTERPOL 2014; UNODC 2016), national governments (e.g. USFWS 2013), nongovernmental agencies like the IUCN Elephant Specialist Group (Thouless et al. 2016); TRAFFIC and WWF (e.g. Xu et al. 2016); Save the Elephants (e.g. Vigne and Martin 2017) and the Natural Resources Defense Council (e.g. Stiles 2015), as well as university researchers (e.g. Milner-Gulland and Leader-Williams 1992; Wasser et al. 2008; et al. 2016a). While fighting wildlife crime directly is unlikely to become a main focus for most natural history museums, collecting institutions have an important role to play, especially by partnering with other institutions, by supporting global efforts.

DNA techniques are also becoming increasingly important as a tool for determining where wildlife is being removed from source populations (e.g. Kitpipit et al. 2016b; Vollrath et al. 2018), bringing with it the potential for increasing enforcement at poaching hot spots, protecting animals while they are still alive (Wasser et al. 2008). With increased capacity in genetics, (see, for instance, the Australian Centre for Wildlife Genomics at the Australian Museum in Sydney, the Molecular Laboratory at Carnegie Museum of Natural History and the Ancient DNA Laboratory at the Natural History Museum in London), natural history

museums are building their capacity to contribute.

TRAINING

Natural history museums can assist these groups with specialist training and may be able to assist border control officers, law enforcement personnel and law-makers that form the line of defense along the wildlife black market supply chain. Groups outside museums exist, such as the International Consortium to Combat Wildlife Crime (ICCWC) – a collective of five international organizations (Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Secretariat, INTERPOL, the United Nations Office on Drugs and Crime, the World Bank and the World Customs Organization) — working to improve collaboration between customs, police forces and national governments to tackle this black market.

The Government of Kenya, Kenya Wildlife Service and National Park Service (Kenya) also list as a priority action for combating wildlife poaching and trafficking the following goal:

Strengthen the capacity of wildlife crime investigative and enforcement officers based on training needs identified through assessments. In particular, train and gazette more scenes-of-crime officers and sensitize to the changes in the law and evidential requirements for charge (Weru 2016).

Despite the broad push for training both at source areas and borders, natural history museums may still play a unique role. For instance, although some resources exist for distinguishing real versus artificial ivory, and from different species (e.g. Espinoza et al. 1992), older references are becoming outdated by new technology

(e.g. Vollrath et al. 2018; Wozney and Wilson 2012). It is, in any case, unclear how broadly supporting documents are shared, especially given the high volume and wide variety of illegal materials that are brought across borders (e.g. more than 725,000 pest interceptions across US borders between 1984 and 2000; McCullough et al. 2006).

If demand and capacity align, providing authentication support could be a fruitful endeavor for natural history museums, not unlike the Red Lists of the International Council of Museums, which are prepared for works of art or archaeological objects in the most vulnerable areas of the world, to prevent them being sold or illegally exported.

ADVOCACY

Levels of elephant poaching and illegal ivory trading in Africa are closely related to a country’s wildlife management practices, law enforcement and levels of corruption (Stiles 2004). Understanding that different social issues are at play at both source and end-user communities has also been the subject of considerable research on source regions (e.g. Milner-Gulland and Leader-Williams 1992; Abensperg-Traun 2009) and destination nations (e.g. Martin 2006). Given that the principle markets for ivory are Asian nations and, to a lesser degree, the United States (UNODC 2016), considerable effort has been put into raising awareness in these regions.

As recognized in multinational resolutions like CITES, domestic ivory bans are crucial to stopping elephant poaching. It now remains for other countries with domestic ivory markets to follow China’s lead and shut them down. Even the United States, with its recent ban, can do more to encourage other countries to follow suit. And while China is extremely important,

all countries must collaborate to end the global ivory trade if there is hope of rehabilitating elephant species.

Natural history museums have two key elements to contribute. The first is their ubiquity. Over 1,000 natural history museums exist around the world, existing in many cities in nearly every country in the world, serving perhaps 30 million visitors annually. These institutions can present important messages, especially when coordinated among multiple institutions. The second element is the level of authentic engagement with the public with individuals and communities, through exhibitions, outreach and educational programming. The opportunity to communicate about important issues, then, goes both deep and wide.

Crime and Punishment Museum Exhibitions

Tangible results of these opportunities are still nascent – very little is currently being done by natural history museums to address the illicit ivory trade or elephant conservation. At the moment, most of the activity is being generated by organizations other than museums. One exception, however, was the 2015 temporary exhibition *Ivory, Tortoise Shell & Fur: The Ugly Truth of Wildlife Trafficking*, from the now defunct Crime and Punishment Museum in Washington D.C., and the follow-up exhibition *Wildlife Trafficking: Are you contributing to the trade?* a year later.

Ivory, Tortoise Shell, & Fur: The Ugly Truth of Wildlife Trafficking. Museum's Newest Temporary Exhibit Aims to Educate and Raise Awareness WASHINGTON D.C. – (May 5, 2015) – It's estimated that in the last century we have lost 97 percent of the world's tigers. In just the last 13 years there has been a 76 percent decline in the elephant population.

Last year alone, there were over 1,200 rhinoceroses killed. Each of these animal populations are being severely depleted in large part due to illegal wildlife trafficking, an issue that our own government has recently announced it is taking on in an effort to combat the problem. Now, people have the opportunity learn more about the world of illegal wildlife trafficking at a new exhibit, called “Wildlife Trafficking: Are you contributing to the trade?” at the Crime Museum, located in Washington, D.C. “Illegal wildlife trafficking is an issue that we should all be concerned with,” states Janine Vaccarello, chief operating officer of the Crime Museum. . . . Crime and Punishment Museum, 2016.

Workshops associated with the first of these exhibitions showed participants how to make the kind of drones that protect wildlife from poachers *in situ*. Students learned about drones and their uses and had instruction on the making and use of their own. The exhibition was supported by the Freeland Foundation, International Fund for Animal Welfare, INTERPOL, Kashmir World Foundation, U.S. Department of State, U.S. Fish and Wildlife Service, WildAid, Wildlife Trust of India and Youth Environmental Programs.

Wild and Precious

Wild and Precious was a collaboration between the United Nations Environment Programme (UNEP) and CITES. It was a photography exhibition that, in 2013 and 2014, traveled through trafficking source and market regions, aimed at increasing awareness of the beauty of living wildlife and the threat posed by wildlife crime and, with it, the impact that their daily decisions can have on wildlife and on people. It was launched at the 16th meeting of the Conference of the Parties to CITES in

Bangkok, marking the convention’s 40th anniversary and displayed at major airports in Thailand, China and Kenya (UNEP 2014). Focusing on airports, train stations and other public spaces in cities like Bangkok, Shanghai, Beijing and Nairobi, it featured striking images of snakes, elephants, and apes photographed by seven preeminent photographers: Laurent Baheux, Sandra Bartocha, Heidi and Hans-Jurgen Koch, Mark Laita, Brian Skerry and Yann Arthus-Bertrand.

UNEP has also developed a Goodwill Ambassador program, to spread the message that poaching and other forms of wildlife crime is not only a betrayal of our responsibility to safeguard threatened species, but a serious threat to the security, political stability, economy, natural resources and cultural heritage of many countries. The initiative features artists like photographer Yann Arthus-Bertrand, Brazilian supermodel Gisele Bündchen and Chinese pop-star Li Bingbing, as well as sports people like international football legend Yaya Touré to highlight specific issues like illegal wildlife trafficking. The initiative presents a rare opportunity for the public to identify with personalities who find important issues affecting. In a statement from Touré:

Côte d’Ivoire’s national team is named ‘The Elephants’ after these magnificent creatures that are so full of power and grace, yet in my country alone there may be as few as 800 individuals left. . . Poaching threatens the very existence of the African elephant and if we do not act now we could be looking at a future in which this iconic species is wiped out (UNEP 2013).

African Wildlife Foundation “Say No” Campaign

In 2014, the African Wildlife Foundation AWF, with partners WildAid, Save the

Elephants and CHANGE launched a public awareness campaign aimed at stopping the demand for illegal wildlife products, specifically ivory and rhino horn, in Asia. The campaign began in China, where they worked with former basketball star turned conservationist, Yao Ming, on a series of public service announcements. The campaign has since expanded to Hong Kong, Vietnam and Thailand, and additional celebrities, like Li Bingbing, Maggie Q, Johnny Nguyen, Jackie Chan, Lang Lang, Edward Norton and Richard Branson have added their support. Like *Wild and Precious*, the campaign ran on televisions and billboards, and at mass transit hubs (AWF 2017).

ACTIVATING NATURAL HISTORY MUSEUMS

None of the high-profile programming uncovered in this review has either been created by, or featured in, natural history museums. It is an opportunity missed and sets an important precedent for natural history museums to develop the kind of initiative that will be meaningful to their constituents. Both individual museums and consortia can make an important difference.

In 2016, ICOM NATHIST released a white paper, *Natural History Museums and Wildlife Trafficking: A Framework for Global Action* (ICOM NATHIST 2016) to codify activities that contribute to worldwide efforts by natural history museums to combat the global crisis of wildlife trafficking. The white paper outlines a framework of activities to educate the public, develop standards for identifying and documenting high risk collections and best practices for museum security and personnel training. It also argues that greater coordination is needed within the natural history museum sector, as well as between natural history

museums and other organizations focused on the same goal.

Potential Initiatives

Coordinating the activities of a global set of museums, either philosophically or logistically, is a daunting prospect but many organizations are trying (see Calvelli 2018; Scanlon 2018). For public-facing institutions, initiatives with the greatest chance of traction appear to be those that work to hasten the obsolescence of the ivory industry. As outward-facing, visitor-focused organizations, museums need to be aware of, and leverage, *zeitgeist*. This, paired with their connections to the hearts and minds of communities, can help send ivory the way of unfashionable materials, like Edwardian egret feathers and whalebone, redundant technology, like FAX machines, public pay phones and commercial film developing, or unethical practices that, like the fur industry, face mounting public censure in the face of skyrocketing profits (Tomes 2017).

Falk 2016 argued that for a visitor experience to succeed, it must connect on a personal level to the end user. In the case of natural history museums, the end user might be the visitor (e.g. the Crime Museum's "What am I doing unwittingly to aid wildlife crime?") or a practitioner ("What resources do I need to get my job done?"). In the latter case, museums' local impact and trusted position in society (Novacek 2008) could be of great assistance. Going back to first principles, how do people engage with the ivory trade?

- Purchasers create the demand – without the demand, the industry would collapse;
- Hunters kill the animals – with alternative and more lucrative sources of income,

keeping the animals alive would be more attractive than killing them;

- Legislators make the regulations about what is and is not legal to cross borders – with more public pressure, lawmakers would be more inclined to act; and
- Border control officers monitor those regulations – with better education and more resources, less material would slip through.

As many of the authors publishing alongside this paper in this special issue of *Curator: The Museum Journal* note, work is being done at every point along this path. For those of us working in natural history museums, it is a matter of finding the places they can make the greatest contribution, whether it be through supporting and partnering, or creating their own initiatives *de novo*. Some ideas for projects our museum is considering could be:

- Creating a training guide of what to look for when confronted with possibly illicit ivory;
- A public-awareness campaign aimed at reducing demand and/or influencing legislators; and
- Helping to gear down the ivory industry by providing outreach programs to give fresh opportunities and retraining for people involved in some aspect of illicit trafficking (e.g. China's Ministry of Culture working with master carvers to repurpose their efforts to collection management).

Reinterpreting the Ivory on Display

Existing ivory on display is a ready source of messaging as many authors in this special issue have described. For example, at CMNH where I work, the ivory-clad eagle (mentioned above)

is being reinterpreted from this relatively matter-of-fact description of the materials and the maker:

Japanese

Eagle, late 19th century

Ivory sheathing over an internal structure, on wooden base

Courtesy of Carnegie Museum of Natural History, Section of Anthropology, 5028-1

Purchased for Carnegie Museum by H. J. Heinz in 1913

Acquired by Henry J. Heinz during his 1913 trip to Japan, this sculpture is a stunning life-size representation of an eagle a symbol of power and might in both Japanese and American cultures. The head of the eagle is made of a solid piece of ivory. The feathers covering the body of the bird are smaller sections of ivory sheathing attached to a substructure—likely made of wood.

to one that reflects the sensitive balance between artistry and vanishing elephants. It is important to the CMNH team to deliver the messages in such a way as to impart the impact of the ivory trade on wildlife, while still respecting the historical artisans and decisions makers responsible for creating and acquiring a work of considerable beauty. Treatment of this subject matter must be nuanced, to balance historical perspective with modern need for action. One way that works, at least at CMNH, has been to provide interventions that empower and encourage visitors to use observational skills to foster engagement and enhance understanding (Knutson et al. 2016).

Exhibitions

The traveling exhibition, *Mammoths and Mastodons: Titans of the Ice Age*, from Chicago's Field Museum gives visitors a chance to "Make

connections between the extinction of mammoths and mastodons and conservation biology issues affecting today's planet" (Field Museum 2014). It has not, in the course of this review, been possible to find a current museum exhibition of any size that specifically addresses the situation for elephants, or any other taxon, to a greater degree than this. However, with the resources available to natural history museums, developing affecting exhibition content seems an obvious route not only to helping elephants and other vulnerable species, but also of leveraging collections, but developing closer relationships with border control agencies to raise general awareness, as well as museums across national territories and with intergovernmental bodies.

An exhibition that addressed elephant conservation might well display ivory objects, not solely as fine art, as is often the case, but alongside nuanced natural and cultural questions about poaching and black markets, and the history of our aesthetic associations with ivory and with elephants (see Castronovo and La Ferla 2018).

Public Programming

For those natural history museums who wish to engage in programming about elephants and ivory, the permutations for public programming are nearly limitless, as demonstrated by the unexpected drone example developed by the National Museum of Crime and Punishment, mentioned earlier. Other programming topics might include presenting high-tech materials that present an alternative to ivory, ecotourism, ivory in history and art, elephant biology and ecology, fakes and forgeries, as well as stories of our associations with elephants from Hannibal to Dumbo, Disney's now famous cartoon character.

Irrespective of the specific topic, however, truly effective programming will be that which participants view as relevant and connect somehow to them personally (see Falk 2016). Thus, the following passage about the death of an elephant has the power to affect us because we can identify with the emotions of its compatriots:

The Death of An Elephant – in a case when an animal is mortally wounded and cannot rise, the other members of the herd. . . circle it disconsolately several times, and if it is still motionless they come to an uncertain halt. They then face outward, their trunks hanging limply to the ground. After a while they may prod and circle again and then again stand, facing outward. Eventually, if the fallen animal is dead, they move aside and just hang around. . . for several hours, or until nightfall, when they may tear out branches and grass clumps from the surrounding vegetation and drop these on and around the carcass, the younger elephants also taking part in this behaviour. They also scrape soil towards the carcass and then stand by, weaving restlessly from side to side. Eventually, they move away from the area (Sikes 1971 quoted in Gibson 2009 pp. 344-345).

The empathy one might feel when reading this evocative passage is in stark contrast with the notion of the “other” that has been discussed in relationship even to some representations of humans, for instance of the bronze figures of African tribespeople from the Herbert Ward Collection at the Smithsonian Institution’s National Museum of Natural History (Arnoldi 1992). The dichotomy between humanity’s love for, and dependence on, nature on one hand and willingness to disregard it completely on the other, is at the crux of the problem for elephants and wildlife crime, as well as for human impacts

on earth in general, the sum total of which is encapsulated in the Anthropocene.

CONCLUSION – ELEPHANTS IN THE ANTHROPOCENE

The image of proboscideans in the Pleistocene (1.8 M – 11,700 BP), invokes the woolly mammoth *Mammuthus primigenius*, their stomachs replete with daisies, being helped to extinction by early hunters (see discussion by Kuzmin 2010). The arrival of humans anywhere in the Neolithic placed additional pressure on the resident megafauna and, by extension, the species that depended on the habitat features they created and maintained. More important for us today, socionatural relationships that developed during this period, relationships of modification and subjugation of the environment (e.g. Haws 2012) established a pattern for the remainder of human history thus far.

In the Holocene (11,700 BP – 1945(?)) the remaining species of elephants (e.g. dwarf woolly mammoths that existed on St. Paul Island in the Bering Sea until 8,000 BP (Guthrie 2004) were reduced to the two critically endangered species extant today. In the face of the likely acceptance of the proposed Anthropocene (1945(?)) to the foreseeable future (see Zalasiewicz et al. 2015), many authors are calling for a radically different relationship with nature. The concept that human activity has been sufficient to affect the earth’s stratigraphy in perpetuity has been a wake-up call to environmental philosophers (e.g. Louv 2012) and those interested in exploring relationships between humans and nature in the context of intangible natural heritage (Dorfman 2011).

This is where natural history museums can contribute. By reinforcing individual relationships with nature and an integration between nature and culture, these institutions can foster

a process of creating empathy and breaking down the “otherness” of the natural world. This deepening acknowledgement of that connection and interdependence is, potentially, the most important – and most pressing – message that natural history museums can impart.

Museums globally exist in an academic, cultural and social context of contest and controversy. A long-established practice of exhibiting ‘the facts’, ‘truth’, ‘national history’ or unproblematic conceptions of ‘other’ places and peoples is no longer wholly sustainable in an environment where the self-evidence of all these things is under question. Topics of global importance that challenge, upset, intrigue and attract are now legitimate areas for museological investigation. Ongoing cultural, social and political tensions also heighten the need for civic spaces where diverse communities might learn about and debate issues of contemporary relevance and importance (Cameron 2005).

Like most of the challenges represented by the Anthropocene, declining biodiversity cannot be addressed in isolation, by natural history museums or any other sector. In this paper, I join many of the authors in this special issue to suggest that greater coordination among natural history museums, and between natural history museums and other collecting institutions such as zoos and art museums, as well as NGOs focused on conservation advocacy and action can change attitudes towards ivory, contribute to the survival of elephants and, ultimately help reshape our societal understanding of our interdependence with nature. **END**

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NOTES

1. Endangered and Threatened Wildlife and Plants; Revision of the Section 4(d) Rule for the African Elephant (*Loxodonta africana*) A Rule by the Fish and Wildlife Service on 06/06/2016 https://www.federalregister.gov/documents/2016/06/06/2016-13173/endangered-and-threatened-wildlife-and-plants-revision-of-the-section-4d-rule-for-the-african-?utm_campaign=subscription+mailing+list&utm_medium=email&utm_source=federalregister.gov
2. http://www.gov.cn/zhengce/content/2016-12/30/content_5155017.htm

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