CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Sixty-ninth meeting of the Standing Committee
Geneva (Switzerland), 27 November -1 December 2017

Species Trade and Conservation

CHALLENGES TO CITES REGULATION OF THE INTERNATIONAL TRADE IN LIVE, WILD-CAUGHT AFRICAN ELEPHANTS

1. This document has been submitted by Burkina Faso and Niger, on behalf of the following NGOs: Amboseli Trust for Elephants, Animals Asia Foundation, Animal Welfare Institute, Born Free Foundation, David Shepherd Wildlife Foundation, Fondation Franz Weber, Future for Elephants, GSM (Society for the Conservation of Marine Mammals, Denmark), Humane Society International, National Council of SPCAs (South Africa), Pro Wildlife, Performing Animal Welfare Society, and Species Survival Network. It relates to agenda item 39 on *Definition of the term 'appropriate and acceptable destinations"* and provides Version 1 of a background paper on the definition of the term "appropriate and acceptable destinations" as it relates to the international trade in live African elephants.*

2. The document presents a summary and analysis of information on the legal implications, biological impacts and welfare effects of the trade in live African elephants, including case studies. It is intended to inform the discussion on CITES regulation and guidance of this trade.

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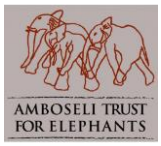
* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*



Challenges to CITES Regulation of the International Trade in Live, Wild-caught African Elephants

A background paper on *definition of the term "appropriate and acceptable destinations" as it relates to the trade in live African elephants*

Version 1 - 24 November 2017

This report has been prepared by:

Amboseli Trust for Elephants
Fondation Franz Weber
Humane Society International

The report is endorsed by:

Animals Asia
Animal Welfare Institute
Born Free Foundation
David Shepherd Wildlife Foundation
Future for Elephants
GSM (Society for the Conservation of Marine Mammals, Denmark)
National Council of SPCAs (South Africa)
Performing Animal Welfare Society
Pro Wildlife
SSN Species Survival Network

Valuable assistance with data, text and editing was provided by:

Catherine Doyle
Daniela Freyer
Phyllis Lee
Anna Mulà
Katarzyna Nowak
Ronald Orenstein
Adam Peyman
Rosalind Reeve
DJ Schubert
Teresa Telecky
Olaf Töffels

For information please contact the principal authors:

Iris Ho, Humane Society International, iho@hsi.org
Keith Lindsay, Ph.D., Amboseli Trust for Elephants, wklindsay@gmail.com

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Executive Summary

CITES currently permits trade in live, wild-sourced African elephants. Appendix II elephants from Botswana and Zimbabwe can be traded to "appropriate and acceptable destinations", and from Namibia and South Africa to "*in situ* conservation programs" (Resolution Conf. 11.20 (Rev. CoP17)), while elephants from wild Appendix I populations can be traded for non-commercial purposes to destinations "suitably equipped to house and care for" them (CITES Article III par. 3(b)). Although such trade is legal under CITES, concern has been expressed over its impact on the animals involved and on those remaining in the wild. The African Elephant Specialist Group of the IUCN Species Survival Commission has stated that it "does not endorse the removal of African elephants from the wild for any captive use", believing there to be "no direct benefit for [their] *in situ* conservation".

At CITES CoP17 (2016), seven African elephant range States recommended that, except in emergencies, only "*in situ* conservation programmes or secure areas in the wild within the species' natural range" should be regarded as "appropriate and acceptable" or "suitably equipped" under the Convention. Their recommendation, along with a proposal submitted by the USA on live animal trade, resulted in the amendment of Resolution Conf. 11.20 to include a new requirement that, to be "appropriate and acceptable" trade in live animals must promote *in situ* conservation.

This paper provides information on the physical and behavioural characteristics of African elephants and the recent history of the live elephant trade. It further suggests that zoos, as they currently exist, are not suitably equipped to house and care for, and should not be considered appropriate and acceptable destinations for, live, wild-sourced African elephants.

Between 1990 and 2015, 1,774 live, wild-sourced African elephants were exported internationally, mostly to non-range States. Exports from all countries were mainly for circuses and traveling exhibitions (583), reintroduction into natural range (497), and zoos (331). From range States alone, 366 wild-caught elephants were reportedly exported to zoos and circuses. There were 116 live elephants listed as having been exported during this period with no listed purpose code. The top countries exporting from the wild were South Africa, Namibia, and Zimbabwe for zoos (63%), and South Africa, Namibia and Botswana for circuses (9%). Top importers were China (29%), the USA (29%) and Mexico (22 %) for zoos and Denmark, Germany, Sweden, Poland, Italy, Norway, and Monaco (55%) for circuses. Trade for circuses has declined markedly in recent years.

An estimated 533 wild-sourced African elephants are currently held in captivity, 465 in zoos and 68 in circuses. African elephants are found in zoos in Europe (121, particularly in Germany, Spain, United Kingdom and France) North America (142, with 139 in the US alone) and Asia (139, with 80 in China and 45 in Japan). Others are in Latin America (22 in Mexico), Maghreb countries and South Africa. Most African elephants in circuses are in Europe (48, 22 of which are in Germany). Only 16 wild-caught African elephants apparently remain in US circuses.

African elephants are wide-ranging, intelligent animals with complex social structures underpinned by strong family bonds. Social interactions are essential to well-being of both sexes, both during early life and as adults. Wild African elephants are constantly on the move, keeping their minds stimulated and their bodies physically fit. Failure to provide for their specific needs deprives captive elephants of crucial learning skills and affects their health.

Until the mid-1990s, most captures of young African elephants were the by-product of culling operations. More recently, captures have involved separating calves from their family groups. This causes significant physical, behavioural, and psychological trauma, and potentially results in

injuries or mortality of the calves or their family members. South Africa has now prohibited the capture of live, wild elephants for export under its National Norms and Standards for the Management of Elephants in South Africa (2008).

Captured calves transported to holding facilities suffer depression, lethargy, anxiety, increased stress, intra-specific aggression, and a diminished or non-existent appetite, sometimes resulting in death or contributing to premature mortality. Training in temporary facilities may include food and/or light deprivation, restriction of movement, forcing the animal into an uncomfortable position for extended periods of time, and regular beatings.

Median lifespan of zoo-born African elephants is 17 years, compared with 56 years in a well-studied wild population. Mortality in the first two years is over 30% for captive-born animals, compared to 4-25% in wild populations. An estimated 54% of captive-born African elephant calves in the US die while still juveniles.

For most zoo elephants, few social or kin companions are available for interaction. Only one of eight facilities in the UK has a typical age and kin structured group. In the US, reported mean group size for African elephants is some 4.5 animals. Some 61% of 33 accredited zoos in the US with African elephants have four or fewer animals, and most (16 of 20) hold three or fewer.

Only 26% of sexually mature female African elephants in the USA in 2012 had ever calved, and less than half were cycling normally. EU collections show high levels of stillbirth or obstructed birth and inadequate maternal care (34% of 67 births). Among US females, average age at first birth was over 21 years, compared to 9-11 years in the wild.

The average outdoor space experienced by individual elephants in North American zoos is under 4,000m^2; indoor areas average 129 m^2. Existing captive facilities cannot provide the space needed (estimated at ~2 km^2/individual) for wild-caught African elephants to exhibit natural behaviours or sustain physical fitness.

Inadequate space and enclosure diversity can result in foot and joint disease and psychological frustration. Obesity, foot health, arthritis, and tooth abnormalities are common health concerns for captive African elephants. Lack of movement, inappropriate substrates and limited opportunity for exercise result in weak, ill and unfit elephants with compromised welfare, poor reproductive ability, and reduced longevity among calves.

Few countries have guidelines for captive elephant welfare in zoos. Those that exist are generally non-binding except for accreditation by zoo organizations in some countries. Existing guidelines focus on health status, with space recommendations that fall short of what elephant biology requires. A recent review of UK guidelines called for urgent attention to space requirements, natural choice of companions, and a shift to a positive reward system. There are fewer mandated welfare requirements for non-zoo facilities, including circuses and elephant tourism camps.

Between 1990 and 2015 Zimbabwe exported 35 live, wild-sourced elephants to zoos in China according to the CITES trade database. Chinese language news articles suggest that since 2012, China has imported 63 elephants from Zimbabwe, including 30 in December 2016. Five of the eight calves imported in 2012 have since died, and the only survivor on display is reportedly being kept in improper housing and is in poor health. Of 27 live, wild-sourced elephants exported from Zimbabwe in 2015, apparently only 24 arrived. Thirty elephants imported in 2016 are on display in Shanghai, Beijing, and Hangzhou. A further 29 elephants imported from Zimbabwe on December

25, 2016, were intended for Beijing and Shanghai Wild Animal Parks; one animal died during transit from an overdose of tranquilizer.

In November 2016, a mission from Zimbabwe travelled to China to determine if facilities for elephants captured in Zimbabwe qualified as 'appropriate and acceptable destinations'. All inspected facilities were found to have serious shortcomings, but only a month later they were judged by permitting officials to be 'appropriate and acceptable' and 'suitably equipped to house and care for' the elephants they received. Captures of live, wild-sourced elephants in Zimbabwe for zoos in China continue, including at least fourteen in August 2017. Video footage suggests most of these elephants were aged between two and four; a number displayed stress-induced behaviours.

A total of 17 elephants were exported from Swaziland to three US zoos in March 2016. One juvenile died prior to transfer. The group included a pregnant female, a violation of IATA transport guidelines. A further juvenile male died under anesthesia in September 2017. A transfer of five elephant calves from Namibia to the United Arab Emirates has apparently been put on hold.

CITES has not established guidance or standards for determining whether a facility that is to receive live African elephants is suitably equipped to house and care for them. Our findings concur with the view of elephant biologists Joyce Poole and Petter Granli, who warned in 2009 that zoos and other captive facilities are "woefully inadequate" to house elephants; we consider that there is no captive facility suitably equipped to house and care for live, wild-caught African elephants forcefully removed from their family groups. In light of this, along with the African Elephant Specialist Group's statement and the views of many respected elephant biologists, we conclude that there should be no trade in live wild-caught African elephants for captive use.

1 Introduction

In 2003[1], the IUCN-SSC African Elephant Specialist Group (AfESG) issued a statement reading: "Believing there to be no direct benefit for *in situ* conservation of African elephants, the African Elephant Specialist Group of the IUCN Species Survival Commission does not endorse the removal of African elephants from the wild for any captive use."

The current CITES listing of African elephants (*Loxodonta africana*) nonetheless permits the capture and trade of live animals from wild populations in South Africa and Namibia for "*in situ* conservation programmes"; in Botswana and Zimbabwe for trade to "appropriate and acceptable destinations" as defined in Resolution Conf. 11.20 (Rev. CoP17); and from wild Appendix I populations for non-commercial purposes under the terms of Article III par. 3(b) of the Convention. As this paper documents, under these provisions substantial numbers of captured African elephants have been transported by road and air to captive facilities, such as zoos and circuses, in Europe, the Americas, the Middle East and Asia. Some 342 live, wild-sourced elephants were traded internationally for zoo purposes alone from 1990 through 2015. As recently as 2016, elephants were exported from Zimbabwe to zoos in China, under conditions that an inspection team from Zimbabwe itself was unable to approve.

Although such trade is legal under CITES, African elephant range States (including members of the African Elephant Coalition, see below), and over 75 elephant scientists and other experts from non-governmental conservation and animal welfare organizations (Elephant Voices 2015)) have expressed concern over its impact on the well-being of the animals involved and on those remaining in the wild in Africa. If the views of expert elephant biologists and national wildlife agencies in the AfESG had been followed, none of these transfers should have taken place.

Thirteen years after the AfESG issued its statement, seven African elephant range States (Burkina Faso, Central African Republic, Chad, Kenya, Mali, Niger and Senegal) recommended[2] to CITES CoP17 that, "in relation to trade in live elephants taken from the wild, the only recipients that should be regarded as "appropriate and acceptable" (as referred to in Resolution Conf. 11.20) and "suitably equipped to house and care for" those elephants in accordance with Article III, Para 3(b) of the Convention are *in situ* conservation programmes or secure areas in the wild within the species' natural range, except in the case of temporary transfers in emergency situations." The US, meanwhile, submitted a proposal[3] for trade in live animals to "support *in situ* conservation". The two proposals led to an important change to Resolution Conf. 11.20 that expanded the definition of "appropriate and acceptable", previously equated only with the "suitably equipped" language in the Convention, to include a requirement that "the Scientific Authorities of the State of import and the State of export are satisfied that the trade would promote *in situ* conservation".

Taking this new requirement together with the conclusion of the AfESG that there is no direct benefit to *in situ* conservation from the removal of African elephants from the wild, it is clear that no captive facility should be considered an "appropriate and acceptable" destination for wild-caught African elephants.

At CoP17, the CITES Standing and Animals Committees were directed to continue the process of re-examining the meaning and interpretation of "appropriate and acceptable" as defined in

[1] https://www.iucn.org/ssc-groups/mammals/african-elephant-specialist-group/afesg-statements/removal-african-elephants-captive-use
[2] CoP17 Doc. 57.4
[3] CoP17 Doc. 40

Resolution Conf. 11.20 (Rev. CoP17). This paper reviews the legal background to the current Resolution, and provides the Parties with information on both the physical and behavioural characteristics of African elephants and the recent history of the live elephant trade. The evidence it presents strongly suggests that zoos, as they currently exist, are not suitably equipped to house and care for, and should not be considered appropriate and acceptable destinations for, live African elephants – and in particular for young animals removed from the wild.

We believe, therefore, that the recommendation of Burkino Faso and its fellow range States, supported by the original statement from the AfESG, is legally justifiable and supported by scientific data on both conservation of the species and the welfare of individual elephants. It should form the basis for any discussions on the interpretation of "appropriate and acceptable" as it relates to the African elephant.

2 CITES and the live elephant trade

2.1 CITES' Treaty text and Resolutions on trade in live elephants

Most African elephant populations are listed in CITES Appendix I, except for the populations of Botswana, Namibia, South Africa, and Zimbabwe. The latter populations are listed in Appendix II subject to an annotation that states, in part, "for the exclusive purpose of allowing:" … "trade in live animals to appropriate and acceptable destinations, as defined in Resolution Conf. 11.20 (Rev. CoP17), for Botswana and Zimbabwe and for *in situ* conservation programmes for Namibia and South Africa."

As a result of differences in listing status among the various range States, the CITES requirements for trade in live African elephants also differ depending upon their country of export. In October 2017, the Secretariat, noting the "considerable interest from members of the public and non-government organizations" and that "international trade in live elephants, especially when it takes the animals out of their natural range, is a very sensitive issue that generates expressions of public concern," provided a 'quick guide' to CITES controls on international trade in live elephants, including Article III paragraph 3(b) of the Convention text and Resolution Conf. 11.20 (Rev. CoP17); see Table 1 below.

Table 1. CITES Secretariat's "quick guide to CITES controls on international trade in live elephants."[4]

Elephant exporting country and CITES Appendix listing status	**Conditions required prior to issuance of a CITES export permit allowing international trade in live elephants. All authorities are appointed by the State Party**
African elephants from Botswana and Zimbabwe (Appendix II)	• The exporting Scientific Authority must have advised that export will "not be detrimental to the survival of the species" • The exporting Management Authority must be satisfied that the animals were legally obtained • It is confirmed that the animals are to go to "appropriate and acceptable destinations" only • The animals will be transported in accordance with International Air Transport Association (IATA) Live animal regulations and CITES guidelines for the non-air transport of live wild animals and plants
African elephants from Namibia and South Africa (Appendix II)	• The exporting Scientific Authority must have advised that export will "not be detrimental to the survival of the species" • The exporting Management Authority must be satisfied that the animals were legally obtained • The animals are destined for *in situ* conservation programmes only • It is confirmed that the animals are to go to "appropriate and acceptable destinations" only • The animals will be transported in accordance with International Air Transport Association (IATA) Live animal regulations and CITES guidelines for the non-air transport of live wild animals and plants

African elephants from other African States and all Asian elephants (Appendix I)	• The exporting Scientific Authority must have advised that export will "not be detrimental to the survival of the species"
	• The exporting Management Authority must be satisfied that the animals were legally obtained
	• The animals will be transported in accordance with International Air Transport Association (IATA) Live animal regulations and CITES guidelines for the non-air transport of live wild animals and plants
	• The importing Management Authority has issued an import permit, having been satisfied that:
	  • the animal(s) will "not to be used for primarily commercial purposes"
	  • the Scientific Authority in the importing State is satisfied that the proposed recipient of a living specimen is "suitably equipped to house and care for it" and that the import will be "for purposes which are not detrimental to the survival of the species"

The Secretariat includes a *caveat*, however, when referencing the "appropriate and acceptable destinations", stating that "If this condition is not complied with, then the specimen is treated in the same way as 'African elephants from other African States and all Asian elephants (Appendix I)'". The Secretariat's *caveat* does not provide clarity on the CITES controls and could be interpreted to mean that the four countries whose populations are in Appendix II could have the option to trade under Appendix I. Indeed, as we will discuss in a later section, such mixed interpretation of the Appendix listings has been used by Namibia.

Additionally, Article III, paragraph 2 (c), Article IV, paragraph 2 (c) and Article V, paragraph 2(b) of the Convention require that, as a precondition for the grant of an export permit, "a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment". Article VIII, paragraph 3

[4] https://cites.org/eng/news/statement/international_trade_in_live_elephants (viewed 24 October 2017)

requires Parties to "ensure further that all living specimens, during any period of transit, holding or shipment, are properly cared for so as to minimize the risk of injury, damage to health or cruel treatment." Resolution Conf. 10.21 (Rev. CoP16) states that the Live Animals Regulations of the International Air Transport Association and the CITES guidelines for the non-air transport of live wild animals and plants, in their most recent edition, are deemed to meet CITES transport requirements. These guidelines note that "for reasons of animal welfare, animal transport should be quick, efficient and strive to avoid as much stress as possible to the animal." They also note that animals must "never be transported in a way likely to cause them unnecessary fear, injury, damage to health or undue suffering."[5]

The requirement in Article III, paragraph 3 (b) that the proposed recipient of a living specimen must be "suitably equipped to house and care for it" governed all international trade in live African elephants from 1990, when the transfer of all populations to Appendix I, decided at CoP8 in 1989, entered into force. It still governs trade in live elephants from most African elephant populations, which remain in Appendix I. A history of listings and controls under CITES governing live trade in African elephants is provided in Table 2 below.

Table 2. History of the listing of African elephants and controls governing the live trade.

CoP	Listings and Resolutions
CoP8 (1989)	All African elephant populations are transferred to Appendix I. Article III, paragraph 3(b) governs the trade in live animals in Appendix I.
CoP10 (1997)	The populations of Botswana, Namibia and Zimbabwe were transferred to Appendix II with an annotation to allow "export of live animals to appropriate and acceptable destinations (Namibia: for non-commercial purposes only).[6] The term "appropriate and acceptable" was not developed at the time.
CoP11 (2000)	The population of South Africa was transferred to Appendix II for the exclusive purpose of allowing…. "trade in live animals for re-introduction purposes into protected areas formally proclaimed in terms of legislation of the importing countries."[7] Adoption of Resolution Conf. 11.20 on *Definition of the term 'appropriate and acceptable destinations'* which stated, as originally adopted, that "where the term 'appropriate and acceptable destinations' appears in an annotation to the listing of a species in Appendix II of the Convention with reference to the export of or international trade in live animals, this term shall be defined to mean destinations where the Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it."[8]
CoP12 (2002)	The annotation for the populations of Botswana and Namibia was changed to "For the exclusive purpose of allowing… trade in live animals for *in situ* conservation programmes".[9]
CoP13 (2004)	The CoP12 language above, allowing trade in live animal for *in situ* conservation programmes, was also applied to the population of South Africa.[10]
CoP14 (2007)	The annotation for all four Appendix II populations was changed to read "trade in live animals to appropriate and acceptable destinations, as defined in Resolution Conf. 11.20, for Zimbabwe and Botswana and for *in situ* conservation programmes for Namibia and South Africa".[11]

[5] CITES Guidelines for Transport. https://cites.org/eng/resources/transport/index.php
[6] https://cites.org/sites/default/files/eng/cop/10/E10-amendments.pdf, p. 151.
[7] https://cites.org/sites/default/files/eng/cop/11/other/E-Amendments_App.pdf , p. 4.
[8] https://cites.org/sites/default/files/eng/cop/11/other/Adopted_Res.pdf , p. 64.
[9] https://cites.org/sites/default/files/eng/cop/12/Adopted_Amendments.pdf , pp. 5, 6.
[10] https://cites.org/sites/default/files/eng/notif/2004/073.pdf , pp. 4, 5.
[11] https://cites.org/sites/default/files/eng/notif/2007/E022.pdf , p. 3.

Despite their use in the definition of "appropriate and acceptable" in Resolution Conf. 11.20 (now expanded, as noted above, in Resolution Conf. 11.20 (Rev. CoP17)), the words "suitably equipped to house and care for" have never been further defined. The CITES Parties have provided no guidance to Scientific Authorities responsible for making such a finding, either for Appendix I species and populations or for the Appendix II populations governed by the Resolution.

2.2 Recent CITES efforts to address the live elephant trade

Parties at CoP17 recognized that more guidance may be needed on the definition of "appropriate and acceptable destinations" and on findings that recipients of living specimens of CITES Appendix I species are "suitably equipped to house and care for them". Pursuant to the documents[12] submitted by Burkina Faso, Central African Republic, Chad, Kenya, Mali, Niger and Senegal, and the USA, the Parties addressed this problem by adopting Decisions 17.178, 17.179 and 17.180 on the implementation of both the "suitably equipped" language in the Convention text and the term "appropriate and acceptable destinations" in Resolution Conf. 11.20 (Rev. CoP17).

The Decisions instruct the CITES Secretariat, "subject to available resources," to report to the Animals Committee and Standing Committee at their meetings in 2017 on the history and implementation of these provisions, and mandate the Committees to consider the report and "make recommendations and develop guidance, as appropriate, for consideration at the 18th meeting of the Conference of the Parties," due to take place in 2019 in Sri Lanka.[13] As noted above, Parties also amended Resolution Conf. 11.20 (Rev. CoP17) so that "appropriate and acceptable destinations" are now defined as those where: a) the Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and b) the Scientific Authorities of the State of import and the State of export are satisfied that the trade would promote *in situ* conservation.

Implementation of these Decisions will be discussed under Agenda item 39 at the 69th meeting of the CITES Standing Committee (SC69) in November 2017.

3 International trade in live, wild-sourced African elephants

3.1 Overview

According to information obtained from the CITES Trade Database,[14] between 1990[15] and 2015 (complete 2016 and 2017 data are not yet available), 365 individual live, wild-sourced African elephants were traded from range States to non-range States and between range States for all purposes other than reintroduction to the wild (purpose code N); this figure excludes re-exports from non-range States, as described under gross exports below. These transfers include 35 Appendix I elephants traded for commercial purposes (purpose code T) despite restriction of the listings and annotation on commercial trade.

The total gross exports of live, wild-sourced African elephants over 25 years between 1990 and 2015 were 1,774 transactions, with most exports going to non-range States. Exports were mainly for circuses and traveling exhibitions (583), reintroduction into the natural range of the species (497), and zoos (331). Fewer were traded for commercial (166), breeding (18), education (40), scientific

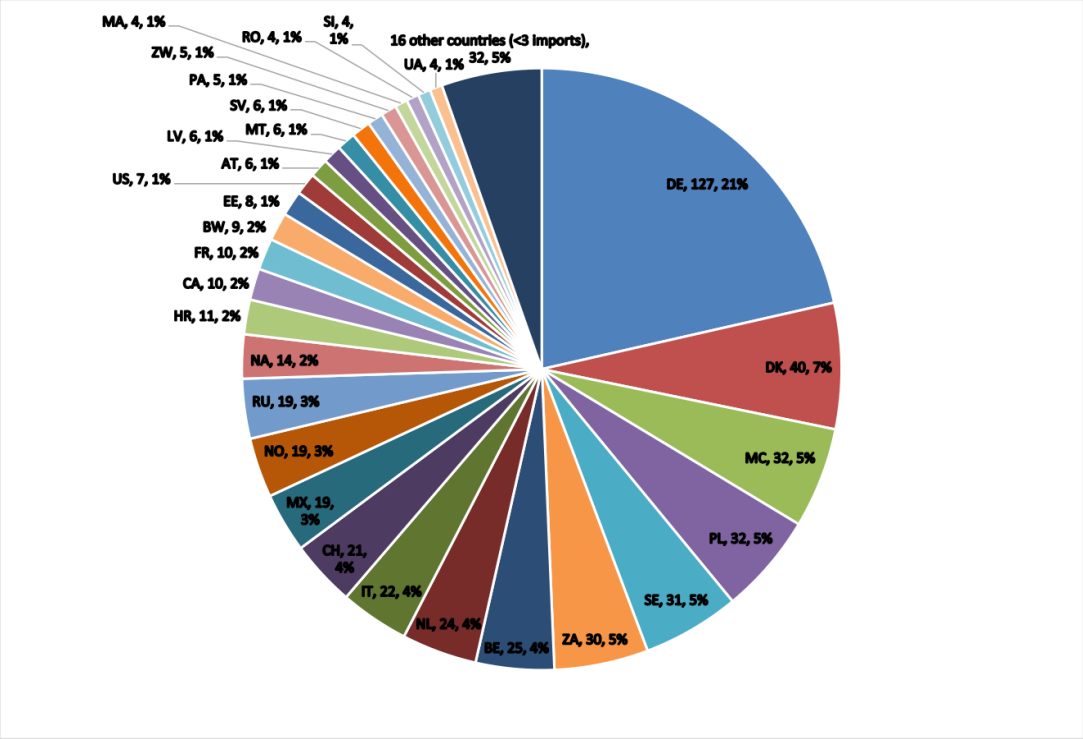
[12] CoP17 Doc. 57.4 and Cop17 Doc. 40; see Introduction above
[13] See CITES Decisions 17.178-17.180. Available at https://cites.org/eng/dec/index.php
[14] https://trade.cites.org/, data downloaded on 26 June 2017.
[15] The year 1990 was chosen as it is when the Appendix I listing of the African elephants took effect.

(18), hunting trophy (4), and personal (1) purposes. In addition, 116 live elephants are listed as having been exported during this period with no listed purpose code. It is impossible to tell from the trade data where exactly the 166 live, wild-caught elephants exported over this period for commercial purposes were destined to go, if not for circuses or zoos, but there are some elephant-based industries (such as those giving elephant rides) that could account for this figure. The figure of 366 wild-caught elephants was reported as exported from range States to zoos and circuses (see Annex 1).

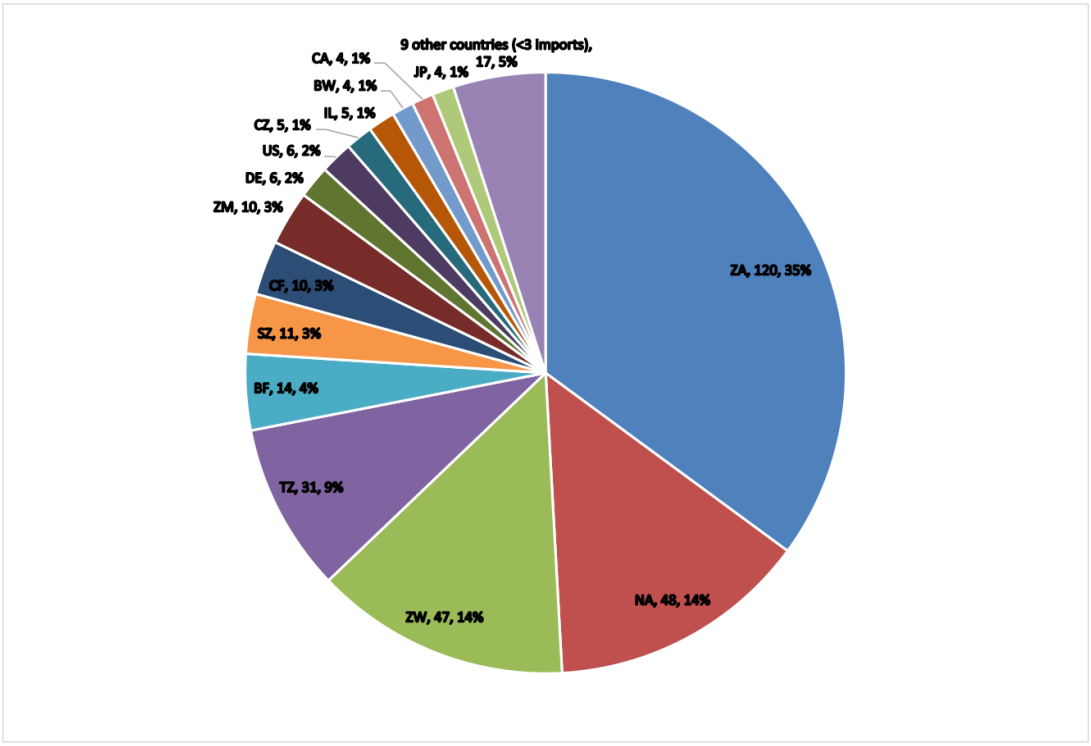
The high number for circuses probably reflects, in part, the same elephants repeatedly moving across international borders. Trade data show that exports of live African elephants for the purposes of circuses (Figure 1a) were dominated by European countries – see below – with African countries providing fewer wild-caught elephants directly to the circus environment (e.g. South Africa 5%, Namibia 2.4%, Botswana 1.5% of total exports for circus purposes).

3.2 Analysis of export data

Information from the CITES Trade Database indicates that South Africa, Namibia, and Zimbabwe have been the top three exporters of live, wild-sourced elephants for zoos, together comprising 72% of such exports from range States, or 215 elephants, during 1990-2015 (Figure 1b and Annex 1). The top three range States for exports directly to circuses were South Africa, Namibia and Botswana, with exports of 49 elephants equaling 71% of number from range States (69) but only 9% of the global total (592). By contrast, the top four world-wide exporters for circus purposes (with two countries tied in third place) were Germany, Denmark, Monaco and Poland, moving 231 elephants, or 39% of the global total (Figure 1a and Annex 1). It appears that most of the elephants traded for circus purposes were originally exported from Africa for zoo purposes and then re-exported between non-range States.



a)

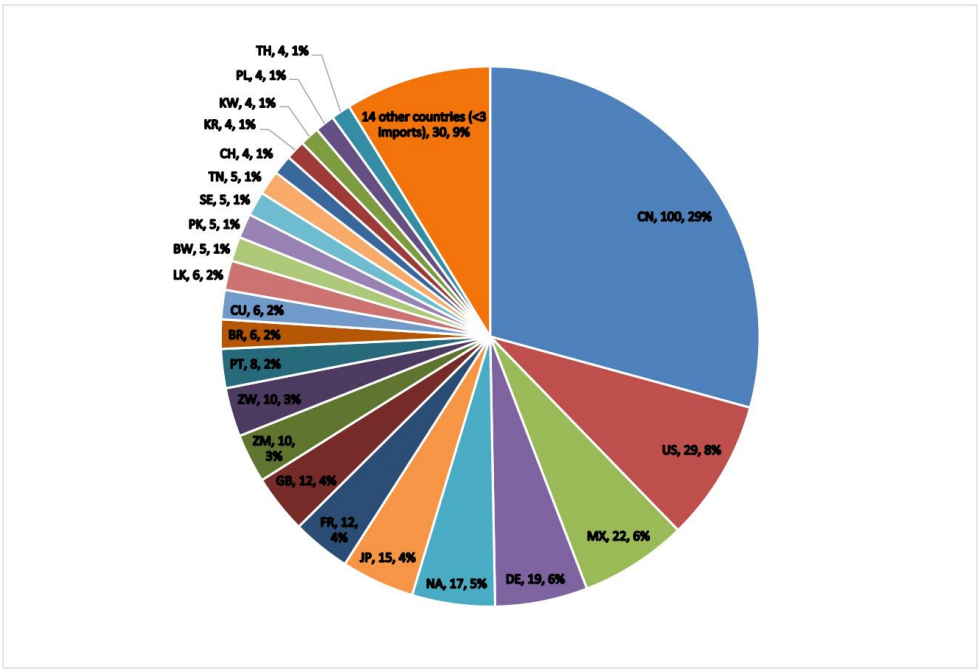


b)

Figure 1. Gross exports of live, wild-sourced African elephants, from 1990-2015, for the purposes of a) circuses and b) zoos.

3.3 Analysis of import data

The CITES Trade Database indicates that the top three importers for zoos between 1990 and 2015 were China, the USA and Mexico (Figure 2a and Annex 2). China imported 100 animals (29% of total imports), while the USA and Mexico imported comparatively fewer animals (29 and 22 elephants respectively) over the same period. Imports for circuses over the same time period were dominated by European countries, namely Denmark, Germany, Sweden, Poland, Italy, Norway, and Monaco which, added together, accounted for 55% of total imports (Figure 2b).



a)

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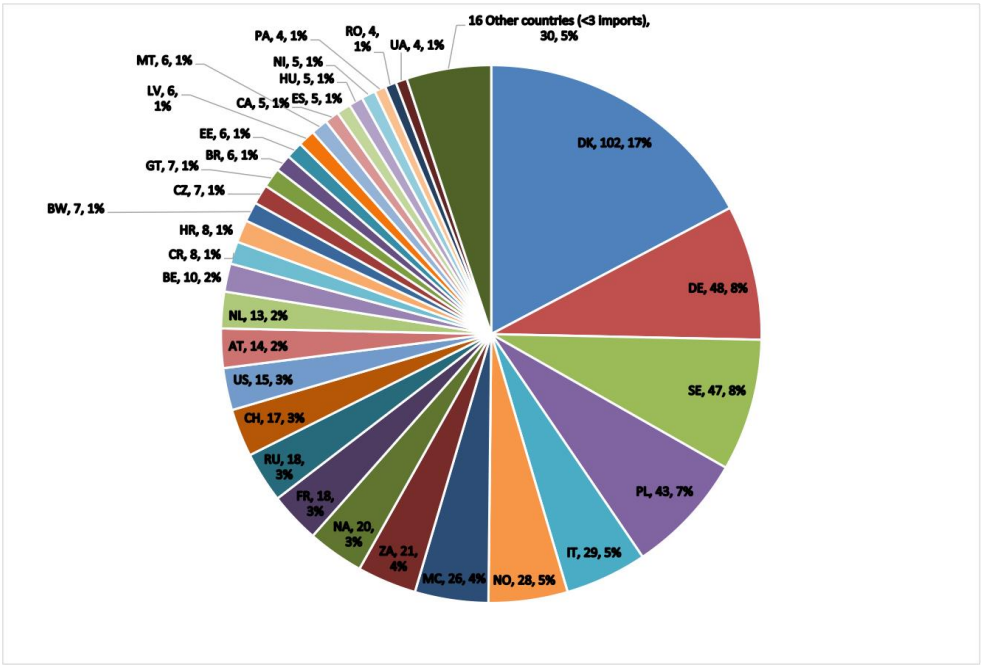

Figure 2. Gross imports of wild-sourced African elephants, from 1990-2015, for the purposes of a) zoos and b) circuses

Trade for zoos (Figure 3) has fluctuated over time, whereas trade for circuses, while relatively high up to the late 1990s, has declined markedly in recent years (see Annexes 3 and 4).

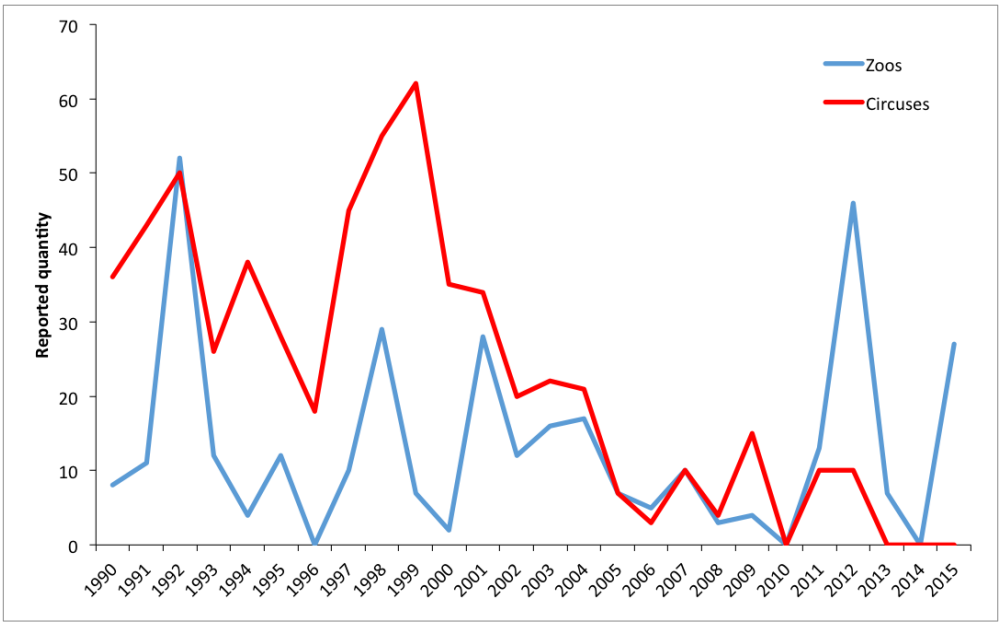

Figure 3. Trends in international trade of live, wild-sourced elephants for zoos and circuses, 1990-2015.

3.4 Live African elephants currently in captivity

The European Elephant Group[16] provides an estimate of the number of wild-sourced African elephants currently (2017) held in zoos (including safari parks) and circuses worldwide (Table 3). The figures for zoos include elephants that have been transferred from zoos or circuses to

[16] The European Elephant Group maintains a comprehensive collection of data on elephant husbandry in zoos and circuses (stock of elephants, births, deaths, accidents, husbandry facilities, etc.). For almost 20 years, the EEG has been publishing this data; so far it has produced six reports. http://www.european-elephant-group.com/english.htm

sanctuaries (USA is the only country with African elephants in sanctuaries) and the figures for circuses include other establishments using elephants for public entertainment.

Table 3. Wild-sourced African elephants held in captivity in zoos and circuses in 2017.

Country	Zoos and Safari parks		Circuses		Total
	No. of institutions	No. of elephants	No. of institutions	No. of elephants	
Austria	1	4 (1,3)	--	--	4 (1,3)
Belgium	3	7 (1,6)	--	--	7 (1,6)
Czech Republic	2	5 (0,5)	--	--	5 (0,5
Denmark	1	3 (0,3)	2	4 (0,4)	7 (0,7)
Estonia	1	3 (1,2)	--	--	3 (1,2)
France	5	10 (1,9)	4	5 (0,5)	15 (1,14)
Germany	10	25 (3,22)	9	29 (1,28)	54 (4,50)
Hungary	1	1 (0,1)	--	--	1 (0,1)
Israel *	1	2 (0,2)	--	--	2 (0,2)
Italy	3	4 (1,3)	3	3 (0,3)	7 (1,6)
Netherlands	2	8 (2,6)	--	--	8 (2,6)
Poland	3	7 (0,7)	--	--	7 (0,7)
Portugal	1	3 (0,3)	1	4 (0,4)	7 (0,7)
Slovakia	1	2 (0,2)	--	--	2 (0,2)
Spain	5	17 (1,16)	--	--	17 (1,16)
Sweden	1	3 (1,2)	--	--	3 (1,2)
Switzerland	1	5 (1,4)	--	--	5 (1,4)
United Kingdom	6	12 (1,11)	--	--	12 (1,11)
Totals Europe	48	121 (14,107)	19	45 (1, 44)	166 (15,151)
Canada	2	3 (1,2)	--	--	3 (1,2)
USA	42	139 (17,122)	11	16 (0,16)	155 (17,138)
Totals Canada-USA	44	142 (18,124)	11	16 (0,16)	158 (18,140)
Argentina	2	3 (0,3)	--	--	3 (0,3)
Brazil	3	5 (2,3)	--	--	5 (2,3)
Chile	1	2 (1,1)	--	--	1 (1,1)
Colombia	3	5 (2,3)	--	--	5 (2,3)
Cuba	1	6 (1,5?)	--	--	6 (1,5?)
Mexico	11	22 (7,15)	1	2 (0,2)	24 (7, 17)
Puerto Rico	1	1 (0,1)	--	--	1 (0,1)
Venezuela	3	4 (0,4)	--	--	4 (0,4)
Totals Latin America	25	48 (13,35)	1	2 (0,2)	50 (13,37)
Algeria	1	2 (0,2)	--	--	2 (0,2)
Egypt	1	1 (0,1)	--	--	1 (0,1)
Mali	1	1 (0,1?)	--	--	1 (0,1?)
Morocco	1	2 (0,2)	--	--	2 (0,2)
South Africa	2	4 (2,2)	1	5 (0,5)	9 (2,7)
Tunisia	1	3 (1,2)	--	--	3 (1,2)
Uganda	1	2 (1,1)	--	--	2 (1,1)
Totals Africa	9	15 (4,11)	1	5 (0,5)	20 (4,16)
Kuwait	1	2 (1,1)	--	--	2 (1,1)
India	1	1 (1,0)	--	--	1 (1,0)
Pakistan	2	4 (1,3)	--	--	4 (1,3)
Sri Lanka	1	1 (1,0)	--	--	1 (1,0)
China	14	80 (9,13,58)	-	--	80 (9,13,58)
Taiwan	2	4 (1,3)	--	--	4 (1,3)

Country	Zoos and Safari parks		Circuses		Total
	No. of institutions	No. of elephants	No. of institutions	No. of elephants	
Japan	22	45 (6,39)	--	--	45 (6,39)
Thailand	1	2 (1,1)	--	--	2 (1,1)
Totals Asia **	44	139 (21,60,58)	--	--	139 (21,60,58)
Totals worldwide	169	465 (70,337,58)	32	68 (1,67)	533 (71,404,58)

Notes: The numbers in brackets are (males, females, sex unknown)

* Data on Israel are included in Europe because Ramat Gan Safari takes part in the European Endangered Species Programme operated by European zoos.

** Data on Asia includes the Middle East, Southern Asia and South East Asia. These data are comparatively weak due to restrictive information access policies and/or political turmoil in some countries, and lack of data on recent elephant importations.

Of the worldwide estimate of 533 wild-sourced African elephants currently held in captivity, 465 are held in zoos and 68 in circuses; nearly seven times more wild-sourced African elephants are held in zoos than in circuses worldwide. The fact that relatively few wild-sourced African elephants are held in circuses lends further credibility to the theory that data for elephants traded internationally for circuses represents the same animals travelling back and forth across international borders.

The majority of African elephants in zoos are found in Europe (121), North America (142) and Asia (139). In Europe, the countries with most African elephants in zoos are Germany, Spain, United Kingdom and France; the United States holds the most of any single country (139); and in Asia, China and Japan predominate, with 80 and 45 African elephants respectively. Latin American countries have relatively few African elephants, with Mexico having the majority (22). There are few elephants in captivity in Africa; the majority of zoos with elephants are in the Maghreb countries north of the Sahara, or in South Africa.

Most African elephants currently in circuses are in Europe (48), with the largest number in Germany (22). The USA apparently has only 16 wild-caught African elephants still in circuses, after recent closures of the largest operation, Ringling Bros. There are few circuses with wild-caught African elephants in Latin America, only one in South Africa and none in Asia (noting that data for this region are likely incomplete).

4 Can captive destinations be “suitably equipped” or “appropriate and acceptable” for wild-caught African elephants?

Evidence presented in this section from elephant biology demonstrates that no captive facility is able to meet the social and behavioural needs of wild-caught elephants. In the context of CITES, this would mean that currently zoos cannot be considered ‘suitably equipped to house and care for’ African elephants.

The shortcomings of captive environments should mean, at the very least, that Parties should be exceptionally thorough in documenting exactly how they arrive at the conclusion that their zoos, circuses and other captive facilities meet the requirements of CITES. In fact, however, it is difficult to obtain information on how Parties are making the determination that facilities are ‘suitably equipped to house and care for’ live elephants or, indeed, who is making this determination and what are their qualifications to do so. For example, in response to requests for information by the

CITES Secretariat[17] in 2013 and 2014 following concerns expressed about the capture of young, wild African elephants for the zoo trade, mostly from Zimbabwe to China and the United Arab Emirates, the CITES Management Authorities of the United Arab Emirates and Zimbabwe advised only that they had authorized the export of seven elephants as a family group and that they conducted an inspection of the private park to which the animals will be sent, to ensure that it is an appropriate and acceptable destination.[18] In July 2015, after the CITES Secretariat corresponded with the CITES Management Authority of China with regard to an application to import 27 live elephants from Zimbabwe, the Management Authority confirmed that, after a field investigation, the CITES Scientific Authority of China had advised that the proposed recipient of the elephants was suitably equipped to house and care for them.[19] While copies of the inspection report and of the permits were provided to the CITES Secretariat, such information is not publicly available.

In this Section, we examine biological and other factors that should be taken into consideration when determining if a destination is, or can be, suitably equipped to house and care for live, wild-sourced African elephants. Fortunately African elephants are well-studied, and more is known about their needs than is the case for most species, thereby making it easier to determine what is likely to be 'suitable'.

4.1 Biological characteristics

African elephants are wide-ranging, intelligent animals with complex social structures underpinned by strong family bonds that can last a lifetime. They have rich emotional lives, with empathy, knowledge of others, and self-awareness, among other characteristics evocative of those of human beings. Elephants are extremely gregarious, and African savannah elephants congregate seasonally in their hundreds (Moss 1988, Poole & Moss 2008).

The social relationships of elephants are particularly multilayered. Social learning and behavioural innovation are essential to both individual development and to the very fabric of elephant society, tradition and culture (Lee & Moss 1999; Poole & Moss 2008). Individuals interact with many animals from different social units across a large population, and cooperative associates may not always be together in the same group. Much of a family's daily activity may be focused on approaching close associates or circumventing individuals they wish to avoid (Charif et al. 2005; Douglas-Hamilton et al. 2005). Elephants learn by observing, contacting or listening to other elephants (Lee & Moss 1999; Poole et al. 2005; Hart et al. 2001; Wemmer & Mishra 1982; Wemmer et al. 1985). Distinguishing between friends and foes, and learning where to go to find water during droughts and to find particular food items or minerals, are skills passed on from older females to their juvenile group members (McComb et al. 2001).

Although they are not as cohesive as female groups, bachelor groups of juvenile and even fully adult bull elephants often include stable companionships (Evans & Harris 2008; Lee et al. 2011). Interactions between elephants in the wild, and the stimulation that such interactions provide, are essential to well-being of both sexes, both during early life and throughout adulthood.

African elephants appear to show compassion and to grieve for lost companions (Poole 2000). They are exceptional communicators, both vocally and non-vocally. They have advanced senses of hearing and touch, excellent navigational skills, and a superb capacity to learn. They can even learn to imitate elephant calls and other sounds, a rare talent that may have evolved to facilitate social

[17] https://cites.org/eng/trade_in_live_elephants, https://cites.org/eng/eng/news/sundry/2013/20130111_ZW_CN_elephant.php, viewed 25 October 2017.
[18] https://cites.org/eng/zw_elephants, viewed 25 October 2017.
[19] https://cites.org/eng/zm_cn_ele_20150708, viewed 25 October 2017.

bonding and cohesion in elephant society (Poole et al. 2005). Even though social partners and potential mates may be separated by many kilometres, elephants keep in touch by producing and receiving very low-frequency acoustic and seismic signals that they can detect and home in on from a great distance (Heffner & Heffner 1982; O'Connell et al. 1997; O'Connell et al. 1998; Reuter et al. 1998).

African elephants in the wild are constantly on the move, behaviour that keeps their mind stimulated and their body vigorous and physically fit. Being able to roam and forage freely over a diverse and varied landscape is critical to an elephant's daily life (Poole & Granli 2009). Their long legs, cushioned foot soles and energy-conserving stride adapt African elephants for a life of continuous motion. Thanks to their highly developed sense of smell, they can detect far-off forage and water sources, including distant rainstorms, so that they can direct their travel to optimal feeding sites (Duffy 2011, Lindsay 2011). Elephants can spend up to 18 hours a day foraging, both by day and by night. They sleep for 4-5 hours or less per day, dozing while standing in midday and often lying down for a few hours during the middle of the night. Some populations travel great distances during migration in search of food and water. How much ground they cover can vary greatly between populations, or between seasons in the same population, depending on the availability of food and water. Natural home ranges for African elephants have been recorded to be as small as 30 km^2 and as large as over 10,000 km^2 (Sukumar 2003).

Given their unique biological and behavioural characteristics, African elephants have very specific needs that captive facilities must struggle to provide if they are to match what elephants can find in the wild. Failure to do so deprives the animals of crucial learning skills, and of experiences that they would have naturally acquired when living in the wild (Poole & Granli 2009).

4.2 Impacts of live capture

The CITES Secretariat has cautioned that "It should be noted that the way in which the animals are captured and kept prior to the export falls outside of the current scope of CITES and is regulated by the national laws of the countries supplying the elephants."[20] However, we believe that the psychological state of an elephant being transferred to a captive facility should have a direct effect on the ability of that facility to provide that individual animal with an "appropriate and acceptable" environment. A deeply traumatized animal requires a completely different level of care from an animal, even of the same species, that has not experienced a comparable trauma (Bradshaw et al. 2005). It is therefore useful to examine the effect that capture has on young, wild African elephants when considering whether any captive facility can meet their needs and the requirements of CITES.

The effect of removing wild elephants from their family group, either by culling, hunting, poaching or live capture, may also impact the survivability of the wild population and may therefore be relevant to the CITES non-detriment finding that is a requirement for export. It may cause harm not only to the animals captured or killed but also to their family members left behind. This impact is especially severe if the oldest female of a matriarch-led unit is removed. Removing a matriarch can fracture the social dynamics of the group. Without her, the surviving group members may suffer from chronic stress (Bradshaw et al. 2005); stress responses have been documented in African elephants affected by disturbance including confinement by fencing (Jachowski et al 2012), repeated hunting (Burke et al 2008) and culling (Slotow et al. 2001). Extensive or repeated removals of herd matriarchs from a population can lead to a generation of maladjusted or delinquent elephants who are likely to engage in "hyper-aggressive" behaviours (Bradshaw et al. 2005). While the impacts of removing a matriarch are extreme, an attempt to capture any wild elephant, whether

[20] https://cites.org/eng/news/statement/international_trade_in_live_elephants, viewed 25 October 2017.

adult, sub-adult, or calf, will also result in adverse consequences. For example, removing juvenile female caregivers from a family group may reduce the survival chances of remaining calves by depriving adult females of their "mother's helpers" (Lee 1987).

If the target elephant is a calf or juvenile – the animals most desired by the live elephant trade because they are easier to handle than larger, older animals – the capture techniques used can be particularly inhumane and damaging. Up until the mid-1990s, most young African elephants captured alive were the by-product of culling operations, when all adult members of a herd were killed (Balfour et al. 2007). Juvenile elephants remaining with their fallen mothers were easily rounded up, and often sold to captive facilities overseas. Calves captured in this way were scarred emotionally, quite likely for life, by the trauma of witnessing the killing of their mothers and other relatives (Slotow et al. 2001) and by their subsequent separation from their family group and removal from the wild (Moss 2000; Poole 2000; Slotow et al. 2000; Bradshaw et al. 2005; Lee & Moss 2011). Slotow et al. (2001) noted that orphans of culls "may not [have] adequate coping mechanisms to diffuse or ameliorate stress" and that "such unnatural trauma may have fundamental consequences".

Culling on a large scale as a management practice was finally stopped in the mid-1990s. In recent years, captures of juvenile elephants have involved separating them from their family groups with the use of helicopters and/or shotguns or other noisemaking devices, as referenced below. As this harassment continues, in some cases for hours, the youngest elephants become so fatigued that they are unable to keep up with the herd, making them easier to capture by ground crews or to tranquilize from the air followed by collection by ground personnel. While such captures are underway, the helicopter or ground crews continue to harass the adults to prevent them from returning to protect the calves. Elephants in the vicinity are seen in video footage to act in a frightened and traumatized manner (Cruise & Russo 2017).

This methodology was employed in the Tuli Block, Botswana, in 1998 (Pickover 2005), in Selati, South Africa, in 2006 (IFAW 2006), and most recently (2017) in Hwange, Zimbabwe, (Cruise & Russo 2017). It is grossly inhumane, causing significant physical, behavioural, and psychological trauma, and potentially resulting in injuries or mortality of the calves or their family members (Moss 1988; Poole 1996; Bradshaw et al. 2005; Poole & Moss 2008).

Once the calves are captured they are transported to holding facilities until shipment. Time spent in such facilities is traumatic, due not only to separation from their mothers and family groups but also to aggressive behaviours by unrelated captives, changes in diet, and the presence of humans. If the captive facilities are in the range of the original family groups, it is not uncommon for those groups to try to visit the confined calves, only adding to the short- and longer-term distress of the captive calves, their mothers and other family members. For some elephants, both captives and those who lost family members to capture, the trauma of the capture process and dissolution of family units has been likened to Post-Traumatic Stress Disorder (PTSD) (Bradshaw et al. 2005).

Symptoms of such trauma can include depression, lethargy, anxiety, increased stress, intra-specific aggression, a diminished or non-existent appetite, and other physical, behavioural, and psychological problems. These conditions can escalate into medical problems that can, in the short term, result in death or, in the longer term can contribute to premature mortality (Bradshaw et al. 2005).

Captive elephants are generally subjected to training while in temporary facilities. Training methods can be brutal and may include food and/or light deprivation, restriction of movement (using chains, ropes, or by hobbling), forcing the animal into an uncomfortable position for

extended periods of time, regular beatings (i.e. with heavy sticks, a bullhook which is also referred to as an ankus or, euphemistically, a "guide" (CAPS 2010). These abusive practices are intended to break the will of the animals so that they submit to human control and dominance.

In recognition of the unique biological characteristics of African elephants and the harm caused by live capture, South Africa has prohibited the capture of live, wild elephants for export under its National Norms and Standards for the Management of Elephants in South Africa (2008).[21] The purpose of the Norms and Standards is to ensure that elephants are managed in a way that is "ethical and humane" and which "recognises their sentient nature, highly organised social structure and ability to communicate" (Chapter 1, part 2). The Norms and Standards' guiding principles note that "elephants are intelligent, have strong family bonds and operate within highly socialised groups and unnecessary disruption of these groups by human intervention should be minimized;" "management interventions must, wherever practicable, be based on scientific knowledge or management experience regarding elephant populations and must - (i) take into account the social structure of elephants; (ii) be based on measures to avoid stress and disturbance to elephants;" and "every effort must be made to safeguard elephants from abuse and neglect" (Chapter 1, Part 3).

4.3 Concerns over welfare in captivity

4.3.1 Life quality measures in captivity and the wild

African elephants have been captured for captivity in small but consistent numbers since European colonisation of the African continent (late 1800s). With an estimated maximum longevity in the wild of 75 years (Lee et al. 2011), it would be expected that some elephants imported into captivity in the 1940s would still be alive today. However, from the available data this does not appear to be the case. Maximum captive lifespan, as estimated from evidence contained in the Elephant Encyclopedia database[22] appears to be 59 years for one African elephant female at Basel zoo, while several females in the USA have lived to over 50. Detailed survival analysis from reliable data in the studbooks for European zoos has shown that median lifespan of zoo-born African elephants is only 17 years (Clubb et al. 2008), compared with a figure from a well-studied wild population (in Amboseli, Kenya) of 56 years for natural mortality and 36 years if human-caused mortality was included. A study of African elephants in US zoos found an estimated average life expectancy of 33.0 years, compared to 44.8 years for Asian elephants (Weise & Willis 2004). However, this study looked only at elephants that survived past a young age and thus overestimated total average lifespan by ignoring juvenile mortality. The vast majority of captive elephants die at younger ages than their wild counterparts, while those born in captivity have an especially high probability of death at a young age.

In wild populations, African elephant mortality in the first two years of life can range from 4% to as much as 25% of births, depending on the harshness of the environment; in a typical savanna environment, the average is 12% (Lee et al. 2011). An analysis of the Elephant Encyclopedia database (P.C. Lee, unpublished data) indicates that captive-born African elephant calf mortality is over 30% in the first two years of life. For the US population, 54% of captive-born African elephant calves die while still juveniles (Prado-Oviedo et al. 2016).

Only a tiny proportion of captive facilities with African elephants have breeding groups of mother-daughter / sister (kin) females, as is normal in the wild. For example, in the UK, only one of the eight facilities holding African females has a typical age and kin structured group: Howletts Wild

[21] https://www.environment.gov.za/sites/default/files/gazetted_notices/nemba_elephantsinsa_g30833gon251.pdf
[22] www.elephant.se, searched 11 April 2017

Animal Park has 13 elephants, spanning 3 generations. In the USA, average herd size (for both African and Asian elephants) reported by Meehan et al. (2016) is 5.3. These figures suggest that even in facilities with a larger number of elephants (the USA maximum is approximately 13 elephants), few social or kin companions are available for interaction. Looking at African elephants alone, reported mean group size is some 4.5 animals (C. Doyle, unpublished data). The distribution is, however, skewed towards smaller sizes; 61% of the 33 zoos accredited by the USA-based Association of Zoos and Aquariums (AZA) holding African elephants have four or fewer animals, and most of these zoos (16 of 20, or 48% of the total) hold three or fewer.

Ex situ breeding is neither able to produce sufficient numbers of female calves to maintain the viability of captive collections, nor is it producing individuals who will live long and healthy lives. Female African elephants are in oestrus for a very short period of time, estimated to be between two to six days (Moss 1983), and access to males during this brief window is often limited in captivity. This is one reason why captive breeding attempts are often unsuccessful. In the USA, only 26% of African elephants over the minimum age for conception had ever calved (2012 data), and less than half the females were cycling normally (Brown et al. 2016). In EU collections, fewer females were acyclical (14.5%) but lack of social structures (kin support and other young caretakers) and inadequate access to males resulted in low breeding success, with high levels of stillbirth or obstructed birth and inadequate maternal care (34% of 67 births; Hartley & Stanley 2016). Among the US females, average age at first birth was over 21 years, while wild females typically experience their first conceptive cycle between 9-11 years (Lee et al. 2011). Reproductive failure and high levels of mortality generate a continuous and unacceptable demand by zoos for more wild elephants. Conservation organizations and elephant scientists do not consider that captive breeding of wild-caught African elephants makes a significant contribution to elephant conservation, due to the currently low breeding rates and high levels of mortality (Clubb et al. 2008).

4.3.2 Lack of adequate and diverse space

Health-associated issues facing captive elephants are of great concern. In addition, unless zoos are able to address the overall lack of opportunities for biologically relevant mental stimulation and physical activity they will never meet elephants' needs in captivity (Poole & Granli 2009).

Information on the living conditions for captive elephants is not available for most countries. A recent study of North American zoos (Meehan et al. 2016) indicated that the average space experienced by individual elephants (a weighted measure of time spent divided by the number of elephants sharing the area) in outdoor enclosures was just under 4,000m^2, with a range from just 70m^2 to some 18,000 m^2; indoor areas average only 129 m^2 in size. Compared to even the smallest wild African elephant female home range sizes (tens of km^2 for forest elephants and hundreds of km^2 for savanna elephants), even the largest captive space is tiny. Existing zoos and other captive facilities are unable to provide the kind of space required to enable wild-caught African elephants to exhibit natural behaviours or sustain physical fitness. Poole & Granli (2009) concluded that "To accommodate a population of 25-35 or more individuals and allow natural foraging and socializing behaviour we believe 50-70 km^2 (~two km^2/individual) of varied terrain and habitat is an indication of the space required."

Some zoo professionals have argued that elephants in the wild walk long distances or have large home ranges only because they need to search for food and water, and when these resources are provided for them in captivity, habitat space and complexity are not required (Hutchins 2006). Elephant biologists, however, disagree. Poole & Granli (2009) noted, in response to Hutchins, that "no zoos come close to meeting the lower range of environmental or social parameters that exist in

nature. If the general state of elephants in captivity were one of thriving, this might be acceptable, but it is not." They point out that wild elephants have evolved a range of specialized physical and behavioural adaptations to allow them to traverse long distances on a daily and seasonal basis, so as to meet their ecological, reproductive, social and cognitive requirements. Failure to use these adaptations results in foot and joint disease and psychological frustration. To put it simply, wild elephants are adapted to walk long distances, to spend three-quarters of their time searching for forage and to navigate complex social relationships, and they need to do so daily to stay healthy in body and mind.

Obesity, foot problems, arthritis, and tooth abnormalities all remain common health concerns for captive African elephants. Lack of movement, inappropriate substrates for walking, sleeping or dusting, and limited opportunity for the exercise of complex muscle systems result in weak or unfit individuals, who may also be carrying considerable excess weight. Stress on feet and bones has mechanical consequences for health over the longer term, again resulting in ill and unfit elephants with compromised welfare. Obesity has also been implicated in poor reproduction among females and reduced longevity among calves (Clubb et al. 2009).

In addition, lack of diversity and heterogeneity in the captive environment leads to chronically low states of arousal and therefore potentially low resilience to any challenges they face from their interactions with keepers or other elephants. A second issue – beyond that of limited space and diversity of that space – is that decisions about how captive elephants use their space are almost always made for them by people. Night-time space use is more often determined by managers' priorities than by the elephants', and thus social companions can neither be chosen nor avoided over a 24-hour period. This lack of a sense of control, and profound social and cognitive limitation, affects all aspects of elephant reproduction, survival and wellbeing (Poole & Granli 2009).

4.3.3 Limitations of current guidelines

Guidelines for captive elephant welfare in zoos exist in a small number of countries. Zoo organizations for which published standards are readily available include the Zoo and Aquarium Association of Australasia (ZAA), formerly the Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA, 2004); American Association of Zoos and Aquaria (AZA, 2012); British and Irish Association of Zoos and Aquaria (BIAZA, 2010); and the Central Zoo Authority of India (2012). Most of these national guidelines are binding only through accreditation processes among members, rather than having the weight of national legislation behind them. The United Kingdom is an exception, in that the Secretary of State's Standards of Modern Zoo Practice (Defra, 2012), based on the BIAZA guidelines, require compliance by zoos, subject to inspection by government officials.

In 2003, a meeting was held at Tufts University in the USA to attempt to bridge the gap between zoo associations and organizations concerned with elephant welfare and well-being. This meeting launched the Coalition for Captive Elephant Well-Being (CCEWB), which produced two key documents on best practice guidelines for elephant husbandry (Kane et al. 2005a, 2005b). The Global Federation of Animal Sanctuaries (GFAS 2015) has also provided guidelines for elephant enclosures, which appear to be modeled on the CCEWB standards.

A summary of standards for housing elephants according to these "best practice" guidelines is provided in Table 4.

Table 4. Minimum standards for zoo enclosures.

Standard	Sex	Area indoors	Area outdoors
ZAA (ARAZPA)	Female, with or without calves	Not specified	900m^2 for up to 2 adult elephants; 2000 m^2 for up to 8 elephants; 250m^2 for additional elephants >2 years' old
	Male	Not specified	500m^2 per elephant
AZA	Female	37m^2	500m^2 per elephant
	Female + calf	56m^2	500m^2 per elephant
	Male	56m^2	500m^2 per elephant
BIAZA	Female	200m^2 for 4 females; 80m^2 per additional female	2,000m^2 for 4 adult females; 200m^2 per additional female
	Male	80m^2	500m^2
Central Zoo Authority, India	Either	48m^2	5,000m^2
CCEWB	Female	60m^2 overnight; 185m^2 winter quarters	Sufficient to allow walking of 10km/day
	Male	110 m^2 overnight; 320m^2 winter quarters	Same as female
GFAS	Female	240m^2 for 4 females; 80 m^2 per additional female	Sufficient to allow walking of 10km/day
	Male	110m^2	Same as female

The guidelines generally have a focus on health status (feet, teeth) but no specific reference to muscle tone or physical fitness. Overall, they consist of small indoor and outdoor space recommendations, based on a compromise between what is really needed for elephant well-being and the likelihood of compliance by the majority of zoo association members. As noted above, they fall far short of what elephant biology requires. Only a few mother-daughter (family) units exist in captivity, and the setting of "minimum numbers" at four elephants as per current UK standards, whether or not they are compatible or incompatible individuals, has little relevance to genuinely enhancing elephant social wellbeing or social choices. A recent review of the UK guidelines (Asher et al. 2015) established at least three key elements, among many others, that need urgent attention: increasing available space well beyond the minimum indoor and outdoor requirements; providing animals with choice of space occupancy and social companions rather than having keepers "micro-manage" them; and moving from a system of negative reinforcement for controlling elephants to a positive reward system. However, these suggestions, while aiming to improve care for elephants already in captivity, do not in any way adequately address all the diverse and complex social, behavioural and biological needs of an elephant in the wild. They also do not address the long-lasting psychological trauma that a forceful wild capture, usually at a very early age, has already had on the animal.

In China, which has recently accounted for the majority of imports of wild-caught African elephant calves, zoos and safari parks are managed by two national governing authorities: the State Forestry Administration (SFA) and the Ministry of Housing and Urban-Rural Development (MHURD). There is also the China Association of Zoological Gardens (CAZG), a membership-based organization. SFA, MHURD and CAZG have policies, standards or guidance concerning the management of wild animals. The National Wildlife and Domestication Announcement in April 2015[23] by the SFA bans close contact between wild animals and visitors as well as the use of animals in abusive animal performances. The CAZG Code of Management in April 2014 recommends that exhibits be designed to imitate the natural habitat and include environment enrichment; it also cautions that animals who live in a group setting in the wild should not be

[23] http://www.thepaper.cn/newsDetail_forward_1319055 (Viewed 3 November 2017)

housed solitarily or it will cause the animal stress and possibly death. Section 2.4 of the MHURD "Guidance on Further Strengthening Zoo Regulations 2010" states that zoos should provide enclosures that meet the behavioural needs of the animals and must protect animals from disturbance or irritation, and prohibits the use of animals in abusive animal performances. While these guidelines appear encouraging in general terms, it is not clear to what extent they have resulted in satisfactory standards for elephant husbandry, or even if they are being followed, in practice.

While guidelines and standards, however inadequate, do exist for zoos, there are fewer controls on, or mandated welfare conditions for, non-zoo facilities. For circuses, wild elephants are typically "tamed" through torture and other inhumane tools and effectively beaten into submission. Elephants are forced to perform acts unnatural to their wild behaviours in exceptionally confined, noisy and artificial conditions. An abundance of evidence documents the inhumane treatment and unsuitable environments under which circuses (Nelson 2011), elephant tourism camps (Marshall 2017) and similar entertainment facilities worldwide keep elephants. "Elephant rides", often seen in Southeast Asia, are on the rise in Africa, where there are some 25 current facilities in the southern African countries of South Africa, Zambia and Zimbabwe using wild-caught African elephants (World Animal Protection 2015). Botswana has recently stopped such activities. While wider non-specific welfare regulations may apply in some countries, their very non-specificity makes them of limited value when it comes to animals such as elephants with uniquely complex social and physical requirements. Zoos and other facilities in North America also offer elephant rides (IDA 2016).

5 Case study: Zimbabwe's exports to China

During the last few years, several exports of wild-sourced elephants from Zimbabwe to zoos in China have received significant media and public attention. According to information in the CITES Trade Database, between 1990 and 2015 Zimbabwe exported 35 live, wild-sourced elephants to zoos in China, eight in 2012 and 27 in 2015 (the most recent year for which figures are available). In January 2017, CGTN Africa reported that since 2012 China has imported 63 elephants from Zimbabwe,[24] indicating that additional shipments occurred in 2016 and/or 2017; it has been confirmed that 30 elephants were imported to China from Zimbabwe in December 2016 (see below).

5.1 The 2012 export

Only four of the eight calves exported by Zimbabwe to China in 2012 have been seen on public display. Taiyuan Zoo and Xinjiang Safari Park each received two calves, but three of these calves have since died.[25] The two calves at Xinjiang Safari Park reportedly died during quarantine. The last survivor is currently at the Taiyuan Zoo. A February 2013 letter to The Honorable Zhang Yesui, Ambassador of the People's Republic of China to the United States, signed by close to three dozen elephant scientists and experts, expressed profound concern about the condition of the lone calf at Taiyuan Zoo. After reviewing videos and photographs of the calf, the scientists and experts warned that "this calf is being kept in improper housing, on hard unyielding flooring, and in a barren, severely restricted space, without companionship. The calf is likely being subjected to freezing temperatures to which he is not accustomed. The calf is in very thin body condition, possibly due to poor nutrition or intense parasites. His skin appears to be very dry and irritated, with multiple skin

[24] https://www.youtube.com/watch?v=oVqA4lyu4-c
[25] http://news.nationalgeographic.com/2016/01/160101-zimbabwe-elephants-china-export-zoos-conservation-jane-goodall/

sores that could be the result of injuries sustained during transport, parasites, chronic stress, improper nutrition, viral infection, and/or the inadequate conditions in which he is kept. There is a large swelling on his belly, which could represent an injury, systemic illness, an abscess, or a hernia…"[26]

Photos taken in March 2016 of the then six-year old calf (Figure 4) demonstrate that the improper housing identified in 2013, including the "hard unyielding flooring, and in a barren, severely restricted space, without companionship," remain unchanged.

Figure 4. Six-year-old African elephant calf at the Taiyuan Zoo.
Photo taken in March 2016.

On February 19, 2017, a news article in the Chinese media reported that the calf, then aged seven, received behaviour training so that the animal would know how to respond to the veterinarian's commands for medical treatment and examination. The article mentioned that an important function for such animal behaviour training is to mitigate the negative emotions from being solitary.[27]

5.2 The 2015 export

According to the CITES Trade Database, China imported 27 live, wild-sourced elephants from Zimbabwe in 2015 for the purpose of zoos. However, apparently only 24 elephants arrived. The disposition of the three missing elephants is unknown but, given the high mortality following the 2012 shipment, they may have died before reaching their destination.

According to a Chinese news report,[28] the 24 elephants arrived at the Qingyuan Rare Animals and Plants Centre in July 2015. A statement issued by the CITES Secretariat on July 8, 2015, noted that, according to the Management Authority of China, "the Chimelong Safari Park in Southern China's Guangdong Province is the destination for the 24 elephants; the elephants will be kept in a free range setting and none of the elephants will be used for performances in this safari park." A report by CGTN Africa [29] in September 2015 (Figure 5) reported that the 24 animals "will not be on show to visitors or for commercial use. Instead, a series of scientific studies will be conducted including their behaviour and artificial breeding[30] as part of a program for Sino-Africa cooperation." The report seems to suggest that the animals were traded specifically for breeding purposes, despite the

[26] Letter to The Honorable Zhang Yesui, Ambassador of the People's Republic of China to the United States (February 7, 2013)
[27] http://www.tynews.com.cn/tynews/news_center/content/2017-02/21/content_1632640.htm
[28] https://www.youtube.com/watch?v=xlCkB8Z86u4 (accessed on April 25, 2017)
[29] "China receives elephants from Zimbabwe", (accessed April 25, 2017) https://www.youtube.com/watch?v=kNdr3koers8
[30] Author's emphasis.

zoo purpose code recorded in the CITES trade database.

Figure 5. Screengrab from CGTN Africa news report on wild-sourced elephants imported from Zimbabwe at Chimelong Safari Park in China.

The Qingyuan Rare Animals and Plants Centre is owned by Chimelong Group, which owns and operates zoos, theme parks and other entertainment and business ventures. The intent may be to breed the elephants in order to supply zoos in China, but there is no further information about Chimelong's plans.

5.3 The 2016 and 2017 export

The CITES Trade Database does not yet contain information on trade from Zimbabwe to China for 2016 or 2017. However, according to Chinese language news articles and social media accounts of zoos, three zoos in China received elephants from Zimbabwe in December 2016: Shanghai Wild Animal Park (Figure 6), Beijing Wild Animal Park (Figure 7), and Hangzhou Wild Animal Park (Figure 8). A total of 30 African elephants are on display: 12 each in Shanghai, and Beijing, and six in Hangzhou. The age of the animals is said to be between 3 and 7 for those held at Beijing Wild Animal Park;[31] and 4 years old on average, indicating that some animals may be younger than 4 years old, at Shanghai Wild Animal Park.

[31] http://mp.weixin.qq.com/s/laX79WF7PAMtPoRqUoHEUA

Figure 6. Photos released by the Shanghai Wild Animal Park in April 2017.

Figure 7. Elephants kept in an enclosure with concrete floors as seen in photos released from the Beijing Animal Park's social media account.

Figure 8. Elephants kept in an enclosure with a concrete floor at Hangzhou Wild Animal Park as seen on the zoo's social media account.

In May 2017, the Shanghai Entry-Exit Inspection and Quarantine Bureau, in response to inquiry, released the inspection and quarantine records of 29 elephants imported from Zimbabwe on December 25, 2016. The records show that the animals were imported through Shanghai Pudong airport. Twelve elephants were intended for Beijing Wild Animal Park and seventeen for Shanghai Wild Animal Park (confirmed by an application from the Shanghai Wild Animal Park displayed on

the Shanghai Forestry Bureau's website).[32] However, the Quarantine Bureau noted in its records that one elephant intended for Shanghai Wild Animal Park died during transit. The report stated that when the officers boarded the plane after its arrival from Zimbabwe, one elephant was motionless; they transported the animal to the zoo and confirmed it was dead; after dissection, their diagnosis was death from an overdose of tranquilizer.

Only twelve of the sixteen remaining animals arrived at Shanghai Wild Animal Park, according to information on the Park's social media. It was reported in June 2017 that the other four animals were expected to arrive at Lehe Ledu zoo in the Chongqing area in Western China,[33] but in September 2017 Chinese press reported that only three had arrived.[34] It was also reported that the elephants traveled for more than 30 hours from Shanghai, where they were kept in quarantine for ten months. Elephant scientist Dr. Joyce Poole commenting in an article in The Guardian, published in October 2017, on the elephants at Lehe Ledu[35], noted that "one of the females looked pinched and stressed…. In the wild, you only see the pinched, sunken look in sick or orphaned elephants."[36] The disposition of the one missing elephant is unknown.

5.4 November 2016: Zimbabwe inspects Chinese zoos

In November 2016, the Zimbabwe Parks and Wildlife Management Authority (ZPWMA), which is the agency that houses the CITES Management and Scientific Authorities of Zimbabwe,[37] and the Zimbabwe National Society for the Prevention of Cruelty to Animals (ZNSPCA), travelled to China to assess facilities where elephants captured in Zimbabwe were destined to be sent. The Zimbabwe delegation consisted of the Head of Management Services of Zimparks, the Chief Inspector of the Zimbabwe National Society for the Prevention of Cruelty to Animals, and the Hwange National Park Ecologist. According to their report, entitled "Property, Protocol, and Environmental Assessment for Proposed Wildlife Translocations to Seven Safari Parks in China", the purpose of the visit was to "assess seven properties which are involved in tourism in six cities who have shown an interest in purchasing elephants from Zimbabwe."

The facilities were assessed for compliance with the requirement that they qualify as 'appropriate and acceptable destinations' for elephants in accordance with Resolution Conf. 11.20 (Rev. CoP17). The sites visited were: Shanghai Wild Animals Park, Hangzhou Safari Park, Beijing Safari Park, Paomaling Safari Park, Jinan Wild World, Chong Qing and Jing De Zhen Zhu Xian Dong Safari Park. Two of the parks, Shanghai Wild Animal Park and Hangzhou Safari Park, had been inspected by the same group in 2015 and, according to the November 2016 report, were "approved to receive elephants only if certain conditions were met to ensure the safe keeping and maintenance of their mental health. Thus this second visit was to ensure that the recommendations made had been adhered to."

The following concerns and recommendations are from the report's summary:

- "Although Shanghai, Beijing and Hangzhou were to receive elephants from Zimbabwe before the end of the year, their quarantine area and exhibition facilities have not been completed. It is recommended that the animals be kept in Zimbabwe until the holding facilities in China are completed and assessed for compliance by Zimbabwe as it is its

[32] Accessed on October 2016
[33] http://www.cq.xinhuanet.com/2017-06/01/c_1121067850.htm
[34] http://cd.qq.com/a/20170916/027733.htm; http://www.cq.xinhuanet.com/2017-09/18/c_1121680306.htm; http://www.cqwb.com.cn/mxw/2017-09/16/content_385372017214466.htm
[35] https://www.theguardian.com/environment/2017/oct/03/exclusive-footage-shows-young-elephants-being-captured-in-zimbabwe-for-chinese-zoos
[36] *Ibid.*
[37] https://cites.org/eng/cms/index.php/component/cp/country/ZW

obligation to do so."

- "Some of the safari parks such as Hangzhou and Jing De Zhen have shown signs of poor treatment of the animals. It is recommended that such places should not be given animals until they prove their ability to take care of them."
- "Recommendations of structures to be built were made to the five new facilities to ensure that the ecological and ethological needs of the elephants are met."
- "Where these safari parks had erred in building their structures, recommendations for changes were made, thus the need for another visit once these are completed to ensure the comfort of the animals."

The November 2016 inspection visited three of the four zoos that received elephants from the December 2016 shipment (see above) shortly thereafter. In each case (see the summaries below) the facilities were found to have serious shortcomings, and the fourth appears not to have been inspected at all. It is inexplicable that only a month later the facilities were judged by permitting officials to be 'appropriate and acceptable' and 'suitably equipped to house and care for' the elephants they received.

Shanghai Wild Animal Park:

- "The quarantine area has been built differently from the plan which was shown to the delegation which assessed the site in 2015."
- "An assessment of the site showed that the building was not up to standard (Figure 5) as the following flaws were noted;
  - The poles used are too small and need to be reinforced with bigger ones
  - The poles are badly corroded in some areas and need to be painted
  - The poles are far apart and pose a danger to the young elephants, thus they need to be reinforced with more.
  - The tops of the poles are bare and sharp, needing to be covered to prevent injuries to the animals
  - The bolts holding the poles are too sharp and to prevent injury to the animals, they need to be covered.
  - The concrete floor is too smooth and sand need to be poured over it
  - A water bath needs to be made in the outside area and a shade provided for periods of extreme heat
  - The elephants should not be forced into the winter enclosure but should be allowed access to it at their will
  - The compartments which have been made both inside and outside to separate the animals should be removed"
- "Some of the recommendations made in 2015 were followed while some were not"
- "The plan for the exhibition area was never availed to Zimbabwe for approval and provision of advice and it was a surprise to find that they were already building. The structure they are in the process of building is not ideal for elephants (Figure 6) and recommendation for change to adapt it to the needs of elephants were made."
- "In general the ecological and ethological needs of elephants were not being considered when the plans for these structures were drawn up."
- "Animals should only be translocated **once all the structures have been completed and**

inspected." (emphasis added)

Beijing Wild Animal Park:

- "The park has experience with elephants as it currently housing two Asian elephants *Elephas maximus* which they claim to have "borrowed" from another safari park as visitors love to see elephants and they do not have any of their own yet. The Asian elephants were kept in an enclosure with little ventilation in separate holding pens. The troughs did not have water (Figure 1) and when the keepers were asked why this was the case, they said they preferred to provide water to the animals through a hosepipe as putting water in the troughs resulted in the animals splashing the water all over the floor. When water was provided in the trough the animals were excited and started drinking and were evidently thirsty."
- "The elephants were displaying stereotypic behaviour, pacing around in circles in their pens. The animals had been confined for a long period and no enrichment was provided for them. Their behaviour was a clear indication of mental stress. The animals kept touching each other through the pens displaying the need for social interaction."
- "The elephants were not the only species whose ecological and ethological needs were not being met. Below is a list of conditions that were not ideal for the animals;
  - The grass in the park is kept short and manicured and to keep this up, most animals species are kept in a small enclosures with very limited space for movement
  - Most of the water troughs did not have water
  - The vultures were tethered onto their perches"
- "The area set aside for elephants is in-between the Bengal tiger and African lions' enclosures. This is not a good idea as these species are both predators."
- "The park does not have facilities for the African elephant yet and thus are not ready to receive the elephants. If the elephants are translocated before the site in completed, they will spend four months in the quarantine area."
- "The borrowing of animals between zoos is an issue of concern as these animals can be moved to zoos which have not been inspected for their capability to take care of the elephants."
- "The mental stress of the Asian elephants in the parks' care indicates that the personnel have not provided for the ecological and ethological needs of the elephant thus resulting in the animals suffering."
- "The individual holding pens for the elephants on the plan do not provide for the social needs of elephants as they are social animals."
- "The elephants should **only be transported from Zimbabwe once the exhibition area has been completed and assessed**." (emphasis added)

Hangzhou Wild Animal Park:

- "The construction has just begun as they are still working on the foundation of the indoor facility. According to the plan which was never availed to Zimparks for approval and advice, the structure will have individual compartments for the animals."
- "There are 4 Asian elephants that are already present at the park. In the last visit it was noted that their treatment did not meet the recommended best practices. In this visit it was saddening to note that not much had been done to improve their living conditions, with the bull tied down in an indoor enclosure because he was on musth with no access to fresh water. Another elephant was also locked up in an enclosure with a chain on its leg. This animal showed stereotypic behaviour as it kept moving in circles in the bare enclosure. The outdoor area had also not been improved."
- "The area that has been set for the African elephants is ideal in size although it needs to be

greatly improved to meet the needs of elephants."

- "It is worrying that they are still failing to take care of the Asian elephant whose treatment is considered as the treatment which will be awarded the African elephant. It is therefore recommended that other that the completion of the exhibition area and its inspection, they be encouraged to take better care of the Asian elephant **and only be given the African elephant when there is no doubt of how it will be treated**." (emphasis added)

Lehe Ledu Zoo in Chongqing / Chong Qing Safari Park:

- The inspectors did not visit Lehe Ledu Zoo in Chongqing, but they did visit the Chong Qing Safari Park, which is apparently a separate facility.
- The elephant enclosure had not been built at the time of the inspection.

5.5 The trade continues

Despite the inadequacies documented in the November 2016 report and the lack of evidence that these have been remedied, captures of live, wild-sourced elephants in Zimbabwe for zoos in China continue to this day.

The online version of the October 2017 article in The Guardian, mentioned in Section 4.3 above, contained exclusive footage[38] showing the August 2017 capture of young, wild elephants in Hwange National Park, Zimbabwe, in preparation for yet another export to Chinese zoos. The article reported, "In the most disturbing part of the footage, a small female elephant, likely around five years old, is seen standing in the trailer….the animal still groggy from the sedative, is unable to understand that the officials want her to back into the truck, so they smack her on her body, twist her trunk, pull her by her tail and repeatedly kick her in the head with their boots" (Figure 9). According to the report, fourteen elephants were captured during that operation and an estimated 30 - 40 elephants were to be captured in total.

[38] https://www.theguardian.com/environment/2017/oct/03/exclusive-footage-shows-young-elephants-being-captured-in-zimbabwe-for-chinese-zoos

Figure 9. Small female elephant captured in Zimbabwe in 2017. Source: The Guardian, 3 October 2017[39]

According to The Guardian, two elephant biologists who examined the photos and footage, Dr. Joyce Poole and Audrey Delsink, said the captured animals were frightened, apprehensive, and stressed. Dr. Poole said the elephants in the holding pens were "bunching" – huddling together because they are frightened. Ms. Delsink said she believed that most of the elephants were aged between two and four, having just been weaned or were a year or two into the weaning process. According to the article, "A number of the calves, she said, were displaying temporal streaming – a stress-induced activity. "Many of the gestures indicate apprehensive and displacement behaviour – trunk twisting, trunk curled under, face touching, foot swinging, head-shaking, ear-cocking, displacement feeding, amongst others.""

6 Other recent cases

6.1 Swaziland to USA

The most recent import of wild-caught African elephants to the USA occurred in March 2016, with the import of 17 elephants from Swaziland to three zoos: Dallas Zoo in Texas, Sedgwick County Zoo in Kansas, and Omaha's Henry Doorly Zoo in Nebraska (Salazar 2016). The group included 11 juvenile females, three juvenile males, and three adult females. Genetic relatedness among the group had not been determined through testing prior to the import (Peters 2017c). One juvenile intended for import died in December 2015 prior to the group's transfer to the USA, reportedly due to an untreatable gastrointestinal condition (Peters 2016). The group also included one pregnant female who gave birth at the Dallas Zoo just two months after arrival (Dallas Zoo 2016), a violation

[39] https://www.theguardian.com/environment/2017/oct/03/exclusive-footage-shows-young-elephants-being-captured-in-zimbabwe-for-chinese-zoos

of CITES transport (IATA) guidelines[40], which discourage transport of mammals in the last third of pregnancy unless for medical purposes.

In September 2017, Omaha's Henry Doorly Zoo reported that 8-9-year-old Warren, one of the imported juvenile male elephants, died while under anesthesia during a procedure to make a mold of a cracked tusk for the purpose of creating a protective cap (Peters 2017b; Henry Doorly Zoo 2017). The elephant's problem with tusk cracks reportedly dated back to at least May 2017. This elephant had arrived at the zoo with a broken ankle, which subsequently became infected (Peters 2017b). Warren was kept off-exhibit until July 2016 when the ankle injury was considered healed, although as of March 2017 he was reported to hold up the affected foot while standing still (Peters 2107a). The Omaha zoo had planned to breed Warren with elephants at the Omaha zoo, depending on the results of genetic testing, and possibly would have later transported him to other zoos for additional breeding (Peters 2017c).

6.2 Namibia to UAE

In May 2017, Namibia's authorities reportedly issued CITES permits for the sale of five wild-caught elephant calves to "Dubai Safari" in UAE.[41] The elephants, between four and eight years old were captured from the Eden Game Farm in the Grootfontein district, which offers trophy hunting opportunities for a variety of African species including elephants.[42] According to various news reports, it was intended that they would be removed from their mothers, isolated and "tamed" for translocation to a zoo in Dubai.[43] This case raised considerable controversy[44], not only because of the cruelty involved in separating calves from their mothers, but also because the African elephants in Namibia are listed in Appendix II of CITES with an annotation that specifically limits export of live elephants to "*in situ* conservation programmes" thereby restricting exports to such programmes in the species' natural habitat. The transfer of elephants to Dubai would not be in accordance with this restriction.

Possibly in response to this controversy, the Namibian government now appears to have halted the transfer. According to a 24 October 2017 report in the *Namibian Sun*[45], the Ministry of Environment and Tourism has sought a court order to force the return of three of the five elephants earmarked for export to the Eden Game Farm. According to the Ministry, the elephants were transported illegally and kept in containers for months. Criminal and civil cases have been opened against Johan Lombaard, co-owner of the capture company Golden Game CC, who is apparently not registered to capture elephants and whose holding facility had not been approved by the Ministry. The remaining two elephants have been released into a larger camp.

Namibian Environment Minister Pohamba Shifeta described the situation in which the animals had been kept at Lombaard's farm as "horrific", said that "at the most 1000 hectares must be available where such animals can be kept", and stated that "First you need to apply for a permit and stipulate where the animals will be kept and whether the animal will be able to survive. We don't encourage that animals should be in captivity and will make this a law… Animals have to be treated fairly. We have to look into the issues of how animals are being transported and treated in Namibia."

[40] https://www.cites.org/sites/default/files/eng/resources/transport/transport_guidelines_2013-english.pdf
[41] http://travel.iafrica.com/bulletinboard/1050116.html
[42] See http://www.eden-wildlife.com/index.html
[43] http://travel.iafrica.com/bulletinboard/1050116.html
[44] http://www.sabreakingnews.co.za/2017/06/12/world-outrage-at-planned-export-of-baby-elephants-from-namibia/
[45] https://www.namibiansun.com/news/court-order-sought-over-elephants/

Shifeta – who had, as recently as June 2017[46], insisted that the sale was not for commercial purposes but "purely for conservation as Namibia has seen an increase in its elephant population and in human-wildlife conflict" and that CITES requirements had been met – further said the ministry had not approved the export of the five elephants from Eden to Dubai: "We have not checked whether the conditions and environment in that country will be conducive for the elephants. Apart from permission that was given by CITES for the export, the ministry did not give approval. They cannot leave this territory without my signature and permission…. It is no joke keeping elephants. When we say they can't be exported to another country because they are kept in zoos and used in circuses, we cannot put Namibia's name to it."

Since 2007, when the current annotation took effect (see page 8, Table 2) for Appendix II populations, Namibia has exported 33 elephants. All the exports went to non-range States and were recorded under Appendix I. Namibia's varying use of Appendix I and Appendix II to record its trade over the years highlights a problematic aspect to the implementation of the listings and interpretation of the annotation.

7 Conclusions

The African elephant is a charismatic and iconic species with strong local and international support for its protection. Serious concern has been expressed by elephant scientists and experts, African elephant range States, the general public and others about the negative welfare impacts caused by capture of young elephants from wild herds for the purpose of export to zoos and circuses.

CITES has not established guidance or standards for determining whether a facility that is to receive live African elephants is suitably equipped to house and care for them. This means that Parties can and do make arbitrary decisions that are not science-based. As described in this document, even when experts have advised that facilities are not suitably equipped to house and care for African elephants, the elephants have, nonetheless, been captured and exported/imported to those facilities.

Bradshaw et al. (2005) summarized the problems facing any facility claiming to be an "appropriate and acceptable" destination for wild-caught young African elephants:

> "Current methods for conserving both wild and captive elephant populations fail to preserve elephant social systems. Even successful rehabilitation centres, such as The David Sheldrick Wildlife Trust, can only partially restore social processes because there are not enough older herd members. There is an added danger to social breakdown, namely that selection for asocial heritable traits in the absence of normal socialization may increase under adverse conditions. All these factors bring into question what kinds of behaviour are being promulgated in both *ex situ* and *in situ* conservation programmes, and compel new conservation strategies that promote normal social patterns."

Elephant biologists Joyce Poole and Petter Granli warned (Poole & Granli 2009) that "The stated aim of zoos is to meet the behavioural and biological needs of the species they hold captive. When it comes to elephants, however, zoos are woefully inadequate." The current paper argues, and we believe demonstrates, that there is no captive facility suitably equipped to house and care for live, wild-caught African elephant calves forcefully removed from their family groups. As a consequence, there should be no such trade. The new requirement in Resolution Conf. 11.20 (Rev. CoP17) that trade in live animals must promote *in situ* conservation also means that there should be

[46] http://www.sabreakingnews.co.za/2017/06/12/world-outrage-at-planned-export-of-baby-elephants-from-namibia/

no trade of wild-caught African elephants to captive facilities, in light of the IUCN African Elephant Specialist Group's clearly expressed view that it is of "no direct benefit for *in situ* conservation of African elephants".

As CITES Parties move this matter forward through the Animals and Standing Committees, we consider it imperative that they take into account the recommendation made by Burkina Faso, Central African Republic, Chad, Kenya, Mali, Niger and Senegal at CITES CoP17 (CoP17 Doc. 57.4) that, emergencies aside, the only recipients that should be regarded as "appropriate and acceptable" or "suitably equipped to house and care for" wild-caught African elephants are "*in situ* conservation programmes or secure areas in the wild within the species' natural range."

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Annexes

Annex 1. Gross exports of wild-sourced African Elephants for zoo and circus purposes, 1990-2015

Country	Zoos	Circuses	Zoos + Circuses
South Africa	120	30	150
Namibia	48	14	62
Zimbabwe	47	5	52
Tanzania	31	0	31
Burkina Faso	14	0	14
Botswana	4	9	13
Swaziland	11	0	11
Central African Republic	10	0	10
Zambia	10	0	10
Libya	0	6	6
Morocco	0	4	4
Sudan	1	0	1
Togo	0	1	1
Tunisia	1	0	1
Totals Africa	***297***	***69***	***366***
Germany	6	127	133
Denmark	0	40	40
Monaco	0	32	32
Poland	0	32	32
Sweden	0	31	31
Belgium	0	25	25
Netherlands	0	24	24
Switzerland	3	21	24
Italy	1	22	23
Norway	0	19	19
Russian Federation	0	19	19
France	2	10	12
Croatia	0	11	11
Czech Republic	5	3	8
Estonia	0	8	8
Austria	0	6	6
Malta	0	6	6
Israel	5	0	5
United Kingdom	2	3	5
Romania	0	4	4
Slovenia	0	4	4
Ukraine	0	4	4
Spain	0	3	3
Hungary	0	2	2
Former Soviet Union	0	2	2
Turkey	0	2	2
Finland	1	0	1
Slovakia	0	1	1
Totals Europe	***25***	***461***	***486***
Canada	4	10	14
USA	6	7	13
Totals Canada-USA	***10***	***17***	***27***
Mexico	0	19	19
El Salvador	0	6	6
Panama	0	5	5
Costa Rica	1	3	4

Country	Zoos	Circuses	Zoos + Circuses
Venezuela	0	3	3
Dominican Republic	0	2	2
Honduras	0	2	2
Nicaragua	0	2	2
Belize	0	1	1
Totals Latin America & Caribbean	***1***	***43***	***44***
Japan	4	1	5
Hong Kong	0	1	1
Sri Lanka	1	0	1
Totals Asia	***5***	***2***	***7***
Unknown	4	0	4
Totals worldwide (exc. Unknown)	**338**	**592**	**934**

Source: CITES Trade Database

Annex 2. Gross imports of wild-sourced African Elephants for zoo and circus purposes, 1990-2015

Country	Zoos	Circuses	Zoos + circuses
Namibia	17	20	37
South Africa	3	21	24
Botswana	5	7	12
Zambia	10	0	10
Zimbabwe	10	0	10
Tunisia	5	0	5
Egypt	3	0	3
Lesotho	0	2	2
Morocco	0	2	2
Algeria	1	0	1
Totals Africa	***54***	***52***	***106***
Denmark	0	102	102
Germany	19	48	67
Sweden	5	47	52
Poland	4	43	47
France	12	18	30
Italy	0	29	29
Norway	0	28	28
Monaco	0	26	26
Switzerland	4	17	21
Russian Federation	0	18	18
Austria	3	14	17
Netherlands	2	13	15
United Kingdom	12	1	13
Belgium	1	10	11
Czech Republic	3	7	10
Croatia	0	8	8
Portugal	8	0	8
Spain	2	5	7
Estonia	0	6	6
Latvia	0	6	6
Malta	0	6	6
Ukraine	2	4	6
Hungary	0	5	5
Romania	0	4	4
Slovenia	0	3	3
Turkey	0	3	3
Israel	2	0	2
Kazakhstan	0	1	1
Slovakia	0	1	1
Former Soviet Union	0	1	1
Totals Europe	***79***	***474***	***553***
USA	29	15	44
Canada	2	5	7
Totals Canada-USA	***31***	***20***	***51***
Mexico	22	1	23
Brazil	6	6	12
Costa Rica	0	8	8
Guatemala	0	7	7
Cuba	6	0	6
Nicaragua	0	5	5
Panama	0	4	4
Colombia	0	3	3
Argentina	2	0	2

Country	Zoos	Circuses	Zoos + circuses
Aruba	0	2	2
Chile	2	0	2
Dominican Republic	0	2	2
Totals Latin America & Caribbean	***38***	***38***	***76***
China	100	0	100
Japan	15	1	16
South Korea	4	2	6
Sri Lanka	6	0	6
Pakistan	5	0	5
Kuwait	4	0	4
Thailand	4	0	4
India	2	0	2
Singapore	0	2	2
Iran	0	1	1
Totals Asia	***140***	***6***	***146***
Unknown	0	2	2
Totals worldwide	**342**	**590**	**934**

Source: CITES Trade Database

Annex 3. Imports and exports of wild-source African elephants for zoo purposes, 1990-2015 (from Comparative tabulations with double-counts removed)

Year	Appendix	Importer	Exporter	Origin	Reported quantity
1990	I	Canada	United States	Unknown	1
	I	France	South Africa		3
	I	Japan	South Africa		2
	II	Sweden	Germany	Zimbabwe	2
1991	I	Austria	Germany	Unknown	1
	I	Chile	South Africa		2
	I	Spain	South Africa		1
	I	United Kingdom	South Africa		4
	I	Poland	Germany		1
	I	Portugal	South Africa		2
1992	I	Sri Lanka	Botswana		4
	I	Austria	Germany	Tanzania	1
	I	Austria	Germany	Zimbabwe	1
	I	France	Israel	Kenya	1
	I	Namibia	Japan		4
	I	Botswana	Sri Lanka	Unknown	1
	I	Germany	Namibia	South Africa	1
	I	Germany	Namibia		2
	I	United Kingdom	Namibia	South Africa	4
	I	Japan	Namibia	South Africa	10
	I	Mexico	United States	Zimbabwe	3
	I	Mexico	United States		1
	I	Botswana	South Africa		4
	I	Sri Lanka	South Africa		2
	I	Namibia	South Africa		13
1993	I	Argentina	Namibia	South Africa	2
	I	Portugal	South Africa		6
	I	United States	South Africa		2
	I	Sweden	South Africa		2
1994	I	Israel	United Kingdom	Tanzania	2
	I	Thailand	South Africa		2
1995	I	Brazil	South Africa		4
	I	Germany	South Africa		8
1997	I	China	Tanzania		10
1998	I	France	Czech Republic	Kenya	2
	I	Brazil	Namibia		2
	I	China	South Africa		15
	II	Germany	South Africa	Botswana	4
	II	India	Zimbabwe		2
	I	United Kingdom	South Africa		4
1999	II	Switzerland	South Africa	Botswana	3
	II	Germany	South Africa	Botswana	4
2000	I	France	Israel	Unknown	1
	I	Switzerland	Italy	Zimbabwe	1
2001	I	Japan	Burkina Faso		3
	I	China	Central African Republic		10
	I	Belgium	Czech Republic	South Africa	1
	I	France	Israel	Tanzania	2
	I	France	Israel	Unknown	1
	I	China	Tanzania		5

Year	Appendix	Importer	Exporter	Origin	Reported quantity
	I	Egypt	Tanzania		1
	I	Tunisia	Burkina Faso		5
2002	I	United States	Canada	Mozambique	1
	I	United States	Swaziland	South Africa	11
2003	I	Algeria	France		1
	I	Canada	United States	Mozambique	1
	I	United States	South Africa		11
	II	Czech Republic	South Africa		3
2004	I	Poland	South Africa		3
	II	United States	Canada	Zimbabwe	1
	II	Netherlands	Switzerland	Zimbabwe	2
	I	France	Czech Republic	South Africa	1
	II	South Africa	Namibia	South Africa	1
	II	South Africa	Namibia		2
	I	Spain	Tunisia	Unknown	1
	I	Egypt	Tanzania		2
	II	China	South Africa		2
	I	Ukraine	France	Namibia	1
	II	France	Czech Republic	South Africa	1
2005	I	Kuwait	Burkina Faso		4
	I	Thailand	Burkina Faso		2
	II	Ukraine	Finland		1
2006	I	Pakistan	Sudan		1
	II	China	South Africa		4
2007	II	United States	Canada	Unknown	2
	II	China	South Africa		8
2008	I	United States	Costa Rica		1
	II	South Korea	South Africa		2
2009	I	Pakistan	Tanzania		4
2011	I	China	Tanzania		7
	I	South Korea	Tanzania		2
	I	China	Unknown		4
2012	I	Mexico	Namibia		18
	I	Zimbabwe	Zambia		10
	II	China	Zimbabwe		8
	I	Zambia	Zimbabwe		10
2013	I	Sweden	Switzerland	Botswana	1
	I	Cuba	Namibia		6
2015	II	China	Zimbabwe		27

Source: CITES Trade Database

Annex 4. Imports and exports of wild-source African elephants for circus purposes, 1990-2015 (from Comparative tabulations with double-counts removed)

Year	Appendix	Importer	Exporter	Origin	Reported quantity
1990	I	Austria	Italy	Zimbabwe	3
	I	Germany	Denmark	Zimbabwe	8
	I	Denmark	Germany	Zimbabwe	10
	I	Denmark	Poland	Netherlands	1
	I	Spain	Poland	Netherlands	1
	I	France	Switzerland	Zimbabwe	1
	I	Italy	Austria	Zimbabwe	3
	I	Netherlands	Sweden	Zimbabwe	2
	I	Sweden	Denmark	Republic of Congo	2
	I	Sweden	Denmark	Zimbabwe	2
	I	Sweden	Poland	Netherlands	1
	II	Sweden	Denmark	Zimbabwe	2
1991	I	Austria	Germany	Kenya	1
	I	Austria	Germany	Unknown	4
	I	Austria	Germany		4
	I	Canada	USA	South Africa	2
	I	Denmark	Belgium	Zimbabwe	1
	I	Denmark	Germany	Zimbabwe	3
	I	Denmark	Netherlands	South Africa	3
	I	Denmark	Netherlands	Zimbabwe	3
	I	France	Poland	Democratic Republic of Congo	1
	I	Italy	Former Soviet Union		1
	I	Malta	Italy	South Africa	3
	I	Malta	Italy	Zimbabwe	3
	I	Norway	Poland	Unknown	1
	I	Norway	Sweden	Zimbabwe	2
	I	Sweden	Germany	Namibia	2
	I	Sweden	Germany	Zimbabwe	3
	I	Sweden	Netherlands	Zimbabwe	2
	I	Sweden	Norway		2
	I	Sweden	Poland	Unknown	1
	I	Former Soviet Union	Italy		1
1992	I	Austria	Poland	Netherlands	1
	I	Denmark	Belgium	Namibia	1
	I	Denmark	Belgium	Zimbabwe	2
	I	Denmark	Germany	Zimbabwe	7
	I	Guatemala	Mexico	Unknown	3
	I	Guatemala	Mexico	South Africa	3
	I	Italy	Malta	South Africa	3
	I	Italy	Malta	Zimbabwe	3
	I	Italy	Former Soviet Union	South Africa	1
	I	Norway	Germany	South Africa	2
	I	Norway	Germany	Zimbabwe	1
	I	Sweden	Germany	Zimbabwe	6
	I	Sweden	Denmark	Zimbabwe	2
	I	Singapore	Hong Kong	South Africa	1
	I	USA	Mexico		3
	I	Unknown	Russian Federation	South Africa	1
	I	South Africa	Botswana		10
1993	I	Aruba	Venezuela	Unknown	2
	I	Denmark	Germany	Namibia	1
	I	Denmark	Germany	Zimbabwe	2
	I	Denmark	Sweden	South Africa	1

Year	Appendix	Importer	Exporter	Origin	Reported quantity
	I	Denmark	Sweden	Zimbabwe	6
	I	Norway	United Kingdom	Zimbabwe	3
	I	Sweden	Denmark	Unknown	5
	I	Sweden	Denmark	Zimbabwe	4
	I	USA	Mexico	South Africa	2
1994	I	Austria	Germany	South Africa	1
	I	Belgium	Sweden	Zimbabwe	1
	I	Belgium	Sweden		1
	I	Brazil	Mexico	Zimbabwe	3
	I	Czech Republic	Poland	Unknown	2
	I	Germany	Austria	South Africa	1
	I	Germany	Austria	Zimbabwe	2
	I	Germany	Norway	ZM	2
	I	Germany	Sweden	Zimbabwe	2
	I	Denmark	Germany	Zimbabwe	2
	I	Denmark	Namibia		1
	I	Denmark	Sweden	Namibia	1
	I	Norway	Germany	Unknown	5
	I	Norway	Germany	Zimbabwe	2
	I	Poland	Czech Republic	Unknown	2
	I	Poland	Norway	Unknown	3
	I	Sweden	Belgium	Unknown	1
	I	Sweden	Belgium	Zimbabwe	1
	I	Sweden	Denmark	Namibia	1
	I	Sweden	Denmark	Zimbabwe	2
	I	Sweden	Russian Federation	Namibia	1
	I	USA	Russian Federation	Namibia	1
1995	I	Brazil	Mexico	Zimbabwe	3
	I	Botswana	South Africa		3
	I	Colombia	Dominican Republic	Unknown	2
	I	Germany	Monaco	Unknown	5
	I	Denmark	Germany	South Africa	1
	I	Monaco	Germany	Unknown	5
	I	Poland	Netherlands	South Africa	3
	I	Poland	Netherlands	Zimbabwe	3
	I	Poland	Norway	South Africa	2
	I	Poland	Norway	Zimbabwe	1
1996	I	Czech Republic	Slovakia	Unknown	1
	I	Denmark	Germany	South Africa	1
	I	Denmark	Germany	Zimbabwe	5
	I	United Kingdom	Spain	Unknown	1
	I	Croatia	Italy	Zimbabwe	2
	I	South Korea	USA	South Africa	1
	I	Mexico	Belize	Unknown	1
	I	Nicaragua	El Salvador	Unknown	3
	I	Poland	Germany	Zimbabwe	2
	I	Slovakia	Czech Republic	Unknown	1
1997	I	Denmark	Belgium	Namibia	1
	I	Denmark	Belgium	Zimbabwe	2
	I	Denmark	Switzerland	Zimbabwe	2
	I	Denmark	Germany	South Africa	3
	I	Denmark	Germany	Zimbabwe	4
	I	Estonia	Russian Federation	Namibia	1
	I	Spain	Morocco	Namibia	4
	I	Hungary	Germany	Zimbabwe	3
	I	South Korea	USA	South Africa	1
	I	Morocco	Spain	Namibia	2

Year	Appendix	Importer	Exporter	Origin	Reported quantity
	I	Netherlands	Russian Federation	Zimbabwe	2
	I	Norway	Germany	Zimbabwe	4
	I	Poland	Netherlands	South Africa	2
	II	Poland	Germany	Namibia	1
	II	Poland	Germany	Zimbabwe	4
	II	Poland	Netherlands	Zimbabwe	2
	I	Russian Federation	Denmark	Zimbabwe	2
	I	Russian Federation	Estonia	Namibia	1
	I	Uganda	Poland	South Africa	2
	I	Uganda	Poland	Zimbabwe	2
1998	I	Denmark	Germany	South Africa	2
	I	Denmark	Germany	Zimbabwe	3
	I	Hungary	Italy	Zimbabwe	2
	I	Italy	Hungary	Zimbabwe	2
	I	Italy	Poland	South Africa	2
	I	Italy	Poland	Zimbabwe	2
	I	Italy	Slovenia	South Africa	1
	I	Japan	Russian Federation	Namibia	1
	I	Namibia	South Africa		10
	I	Netherlands	Poland	South Africa	1
	I	Netherlands	Poland	Zimbabwe	3
	I	Norway	Germany	South Africa	1
	I	Norway	Russian Federation	Namibia	1
	I	Norway	Sweden	ZM	4
	I	Poland	Uganda	South Africa	2
	I	Poland	Uganda	Zimbabwe	2
	I	Sweden	Norway	Zimbabwe	4
	I	Singapore	Norway	Namibia	1
	I	Slovenia	Italy	South Africa	1
	I	South Africa	Namibia		10
1999	I	Switzerland	Germany	Zimbabwe	2
	II	Switzerland	France	Zimbabwe	4
	I	Costa Rica	El Salvador	Unknown	3
	I	Germany	Norway	Zimbabwe	4
	I	Germany	Poland	South Africa	2
	I	Germany	Poland	Zimbabwe	1
	I	Denmark	Belgium	Namibia	1
	I	Denmark	Belgium	Zimbabwe	3
	I	Denmark	Germany	South Africa	3
	I	Denmark	Germany	Zimbabwe	4
	I	France	Switzerland	Zimbabwe	2
	I	France	Monaco	Zimbabwe	2
	I	France	Russian Federation	Namibia	1
	II	France	Monaco	Zimbabwe	2
	II	France	Russian Federation	Namibia	1
	I	Guatemala	Mexico	Unknown	1
	II	Kazakhstan	Russian Federation	Namibia	1
	II	Namibia	South Africa		10
	I	Netherlands	Poland	South Africa	1
	I	Netherlands	Poland	Zimbabwe	3
	I	Norway	Germany	Zimbabwe	2
	I	Poland	Germany	South Africa	2
	I	Poland	Germany	Zimbabwe	1
	I	Poland	Netherlands	South Africa	1
	I	Poland	Netherlands	Zimbabwe	3
	I	Russian Federation	Japan	Namibia	1
	II	Russian Federation	France	Namibia	1

Year	Appendix	Importer	Exporter	Origin	Reported quantity
2000	I	Belgium	Russian Federation	Namibia	1
	I	Switzerland	Denmark	Zimbabwe	2
	I	Switzerland	France	Zimbabwe	1
	I	Costa Rica	Mexico		1
	I	Costa Rica	Nicaragua		1
	I	Costa Rica	Panama	Unknown	1
	I	Germany	Estonia	Zimbabwe	4
	I	Germany	Poland	South Africa	1
	I	Germany	Poland	Zimbabwe	3
	I	Denmark	Belgium	Namibia	1
	I	Denmark	Belgium	Zimbabwe	2
	I	Denmark	Germany	Zimbabwe	1
	I	Denmark	Sweden	Zimbabwe	2
	I	Dominican Republic	Panama	Unknown	1
	I	Estonia	Latvia	Zimbabwe	2
	I	France	Switzerland	Zimbabwe	2
	I	Latvia	Sweden	Zimbabwe	2
	I	Panama	Costa Rica		2
	I	Poland	Sweden	Unknown	3
	I	Poland	Sweden	Zimbabwe	1
	I	USA	Canada	Mozambique	1
2001	I	Canada	USA	Mozambique	1
	I	Costa Rica	Panama	Zimbabwe	1
	I	Germany	Monaco	Namibia	1
	I	Germany	Monaco	Zimbabwe	3
	I	Dominican Republic	Panama	Unknown	1
	II	Estonia	Sweden	Zimbabwe	3
	I	France	Russian Federation	Namibia	1
	II	France	Switzerland	Zimbabwe	2
	I	Italy	Croatia	Unknown	1
	I	Latvia	Russian Federation	Namibia	1
	II	Latvia	Estonia	Zimbabwe	3
	I	Monaco	Germany	Namibia	1
	I	Monaco	Germany	Zimbabwe	5
	I	Panama	Costa Rica	Zimbabwe	1
	I	Russian Federation	France	Namibia	1
	I	Russian Federation	Turkey	Namibia	1
	II	Russian Federation	Belgium	Namibia	1
	I	Sweden	Latvia	Zimbabwe	3
	I	Turkey	Russian Federation	Namibia	1
	I	USA	Canada	Mozambique	1
	I	Unknown	Canada	South Africa	1
2002	II	Botswana	South Africa		4
	I	Canada	USA	Mozambique	1
	II	Switzerland	France	Zimbabwe	2
	I	Germany	Monaco	Zimbabwe	2
	I	Croatia	Italy	South Africa	1
	I	Croatia	Italy	Zimbabwe	2
	I	Italy	Croatia	Unknown	4
	I	Italy	Croatia	Unknown	1
	II	Italy	Croatia	South Africa	1
	II	Italy	Croatia	Zimbabwe	1
	I	Russian Federation	Latvia	Namibia	1
2003	I	Canada	USA	Mozambique	1
	I	Colombia	Venezuela	Unknown	1
	I	Germany	Switzerland	Zimbabwe	2
	II	France	Switzerland	Zimbabwe	2

Year	Appendix	Importer	Exporter	Origin	Reported quantity
	I	Croatia	Italy	Zimbabwe	2
	II	Italy	Slovenia	Zimbabwe	2
	II	Monaco	Germany	Zimbabwe	4
	I	Poland	Germany	Zimbabwe	3
	II	Slovenia	Croatia	Zimbabwe	2
	I	USA	Canada	Mozambique	3
2004	I	Switzerland	Germany	Zimbabwe	4
	I	Costa Rica	Honduras	Zimbabwe	1
	I	Germany	Switzerland	Zimbabwe	3
	I	Croatia	Slovenia	South Africa	1
	I	Italy	Croatia	Italy	1
	I	Nicaragua	Honduras	Zimbabwe	1
	I	Nicaragua	Panama	Zimbabwe	1
	I	Panama	Nicaragua	Zimbabwe	1
	II	Romania	Belgium	Zimbabwe	4
	I	USA	Canada	Mozambique	1
	I	USA	Canada	Unknown	3
2005	II	Denmark	Romania	Namibia	1
	II	Denmark	Romania	Zimbabwe	3
	II	Monaco	Switzerland	Zimbabwe	2
	II	Netherlands	Switzerland	Zimbabwe	1
2006	I	Switzerland	Netherlands	Zimbabwe	2
	II	South Africa	Togo		1
2007	I	Belgium	Namibia		1
	I	Belgium	Zimbabwe		2
	I	Iran	Turkey		1
	I	Monaco	Belgium	Namibia	1
	I	Monaco	Belgium	Zimbabwe	3
	I	Turkey	Italy	Zimbabwe	1
	II	Turkey	Italy	Zimbabwe	1
2008	I	Belgium	Monaco	Namibia	1
	I	Belgium	Monaco	Zimbabwe	3
2009	I	Germany	Switzerland	Zimbabwe	2
	I	Denmark	Russian Federation	Namibia	1
	I	Denmark	Russian Federation	Zimbabwe	3
	I	Russian Federation	Denmark	Namibia	1
	I	Russian Federation	Denmark	Zimbabwe	3
	I	Russian Federation	Namibia		2
	I	Russian Federation	Zimbabwe		3
2011	I	Denmark	Monaco	Zimbabwe	4
	II	France	Monaco	South Africa	1
	I	Monaco	Denmark	Zimbabwe	4
	II	Monaco	France	South Africa	1
2012	I	Czech Republic	Monaco	Zimbabwe	4
	I	Denmark	Monaco	Zimbabwe	4
	II	Lesotho	South Africa		2