



Animal Welfare Institute

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Via Federal eRulemaking Portal

Public Comments Processing
Attn: FWS-HQ-ES-2019-0115
United States Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

RE: Endangered and Threatened Wildlife and Plants; Revision to the Section 4(d) Rule for the African Elephant (Docket No. FWS-HQ-IA-2021-0099)

Dear Director Williams:

The Animal Welfare Institute submits the following comments on behalf of itself and Born Free USA regarding the U.S. Fish and Wildlife Service (USFWS)'s proposal to revise the section 4(d) rule for African elephants under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531, *et seq.* 87 Fed. Reg. 68,975 (Nov. 17, 2022).

We support the proposed rule's stated goals of increasing protections for African elephants, gaining clarity about management methods in range countries, and ensuring that U.S. actions enhance the conservation of the species. The proposed rule would also represent an improvement over the USFWS's current import policies. However, given the severity of the threats faced by African elephants, and the corresponding precipitous decline in their populations, a more robust strategy is necessary.

Importing live elephants or their trophies does not enhance in situ conservation and presents significant welfare concerns. Simply regulating these practices will not aid in the survival of their wild counterparts. Therefore, we urge the USFWS to strengthen this proposed rule by prohibiting the import of both live elephants and their trophies. Such a decisive action would signify the U.S. government's recognition of the ongoing decline in many African elephant populations, that the species is best conserved in its natural habitat within its native range, that captivity compromises the welfare of the animals, and that trophy hunting is an antiquated activity that rarely provides demonstrable conservation benefits to the species or to the local communities that coexist with elephants.

If, despite the compelling evidence provided in this comment, the USFWS proceeds with the proposed amendments to the 4(d) rule, it should expand the enhancement determination to all African elephants and their products in trade that do not qualify as ivory or trophies, and

substantively strengthen the enhancement criteria used to assess each application for the import of live African elephants and African elephant parts and products. This comment includes specific suggestions on our recommended revisions to the enhancement criteria to make them more meaningful and to increase their conservation value. Furthermore, if the USFWS continues to permit African elephant imports, we support the proposed expansion of the “suitably equipped” finding process, as well as linking import authorization to the CITES designation of an exporting country’s CITES implementing regulations, but both proposals must be revised and strengthened as suggested herein.

I. The Importation of Live Elephants Should be Banned Due to Lack of In Situ Conservation Benefit and Serious Welfare Concerns During Capture and Captivity

We are strongly opposed to the continued import of wild-caught elephants for display in zoos in the United States, and we ask the USFWS to reconsider its position on this matter. The best available science strongly indicates that keeping elephants in captive environments severely compromises their welfare because the facilities cannot meet the species’ complex biological, social, and cognitive requirements by adequately emulating wild habitats, diets, and social herd dynamics. In this section, we address common issues of concern that are indicative of low welfare in captive elephant populations, including: (1) stereotypes and other behavioral abnormalities; (2) lack of natural social structures and dynamics; (3) foot maladies, musculoskeletal issues, and obesity; (4) inadequate enclosure size; (5) infectious disease; and (6) low birth rates and mortality.

A. Stereotypes and Other Behavioral Abnormalities

Animals experience psychological suffering when they are housed in facilities that restrict their ability to engage in natural behaviors.¹ One of the primary manifestations of this psychological suffering is abnormal behaviors known as stereotypes, which are the repetition of motor patterns with no apparent purpose.² Stereotypic behavior is generally recognized as an indicator of low welfare,³ and is induced by “frustration, repeated attempts to cope, and/or central nervous system

¹ Dawkins M.S. 1988. Behavioural deprivation: A central problem in animal welfare. *Applied Animal Behaviour Science*, 20:209-225.

² Mason G. J. 1991. Stereotypes: a critical review. *Animal Behaviour*, 41:1015-1037; Kurt F & Garaï M. 2001. Stereotypes in captive Asian Elephants- a symptom of social isolation. Scientific Progress Reports in: *A Research Update of Elephants and Rhinos*. Proceedings of the International Elephant and Rhino Research Symposium, Vienna June 7-11, 2001. pp.57-63.

³ Dantzer R. 1986. Behavioral, physiological and functional aspects of stereotyped behavior: A review and re-interpretation. *Journal of Animal Science*, 62:1776-1786. Available at: <http://jas.fass.org/content/62/6/1776>; Mason G. J. 1991. Stereotypes: a critical review. *Animal Behaviour*, 41:1015-1037; Mason G. J. & Latham N. R. 2004. Can’t stop, won’t stop: Is stereotypy a reliable animal welfare indicator? *Animal Welfare*, 13: S57-69; Mason G.J. & Veasey J.S. 2010. How should the psychological well-being of zoo elephants be objectively investigated? *Zoo Biology* 29, 237–255; Mason, G.J. & Veasey, J.S. 2010. What do population-level welfare indices suggest about the well-being of zoo elephants? *Zoo biology*, 29 (2), 256-273; Asher L., Williams E., & Yon L. 2015. Developing behavioural indicators, as part of a wider set of indicators, to assess the welfare of elephants in UK zoos - Defra project WC 1081. Nottingham: University of Nottingham.

[brain] dysfunction”⁴ and frequently is associated with restrictions on movement and social deprivation.⁵ In elephants, stereotypic behaviors include swaying, head-bobbing, pacing, and circling.⁶ Stereotypic behaviors are related to the development of serious physical health problems, including foot disease.⁷ Such behavior is also related to impaired social and emotional functioning, such as that seen in human survivors of trauma.⁸ Being captured from the wild, being housed individually, a history of inter-institutional transfers, maternal separation, and being a member of a nonbreeding group of mainly unrelated females, which are all common practices in U.S. zoos, have been identified as risk factors for psychological harm and the associated development of stereotypic behaviors.⁹ In U.S. zoos, 85 percent of elephants engage in stereotypic behavior during the daytime and nearly 69 percent demonstrate such behavior at night.¹⁰

⁴ Mason, G. 2006. Stereotypic behavior: fundamentals and applications to animal welfare and beyond. In: Mason G, Rushen J, eds. Stereotypies in captive animals, 2nd edition. Wallingford, UK: CAB International, 325–356.

⁵ Vanitha V., Thiyagesan K. & Baskaran N. 2016. Prevalence of stereotypies and its possible causes among captive Asian elephants (*Elephas maximus*) in Tamil Nadu, India. *Applied Animal Behaviour Science*. 174:137-146. Available at: <https://doi.org/10.1016/j.applanim.2015.10.006>; Kurt F. & Garaï M. 2001. Stereotypies in captive Asian elephants- a symptom of social isolation. Scientific Progress Reports in: *A Research Update of Elephants and Rhinos*. Proceedings of the International Elephant and Rhino Research Symposium, Vienna June 7-11, 2001. pp.57-63. Available at: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=e74b99c4c4c660e04fc2efec0ed175b07f286819>; Rees, P. 2004. Low Environmental Temperature Causes an Increase in Stereotypic Behavior in Captive Asian Elephants (*Elephas maximus*). *J. Thermal Biology*. 29: 37-43.

⁶ Kurt F. & Garaï M. 2001. Stereotypies in captive Asian elephants- a symptom of social isolation. Scientific Progress Reports in: *A Research Update of Elephants and Rhinos*. Proceedings of the International Elephant and Rhino Research Symposium, Vienna June 7-11, 2001. pp.57-63. Available at: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=e74b99c4c4c660e04fc2efec0ed175b07f286819>.

⁷ Wendler P., Ertl N., Flügger M., Sós E., Torgerson P., Heym P.P., Schiffmann C., Clauss M. & Hatt J-M. 2020. Influencing factors on the foot health of captive Asian elephants (*Elephas maximus*) in European zoos. *Zoo Biology* 39(2):109-120. Available at: <https://doi.org/10.1002/zoo.21528>.

⁸ Bradshaw, G.A., Schore, A.N., Brown, J.L., Poole, J.H., & Moss, C.J. 2005. Elephant breakdown. *Nature*, 433 (7028), 807-807; Bell Rizzolo J., & Bradshaw, G. 2016. Prevalence and Patterns of Complex PTSD in Asian Elephants (*Elephas maximus*). *Asian Elephants in Culture and Nature*, 291-297.

⁹ Greco, B.J., Meehan, C.L., Hogan, J.N., Leighty, K.A., Mellen, J., Mason, G.J., & Mench, J.A. 2016. The days and nights of zoo elephants: using epidemiology to better understand stereotypic behavior of African elephants (*Loxodonta africana*) and Asian elephants (*Elephas maximus*) in North American zoos. *PLoS One*, 11 (7), p.e0144276; Bradshaw, G.A., Schore, A.N., Brown, J.L., Poole, J.H., & Moss, C.J. 2005. Elephant breakdown. *Nature*, 433 (7028), 807-807; Bell Rizzolo J., & Bradshaw, G. 2016. Prevalence and Patterns of Complex PTSD in Asian Elephants (*Elephas maximus*). *Asian Elephants in Culture and Nature*, 291-297.

¹⁰ Greco, B.J., Meehan, C.L., Hogan, J.N., Leighty, K.A., Mellen, J., Mason, G.J., & Mench, J.A. 2016. The days and nights of zoo elephants: using epidemiology to better understand stereotypic behavior of African elephants (*Loxodonta africana*) and Asian elephants (*Elephas maximus*) in North American zoos. *PLoS One*, 11 (7), p.e0144276.

B. Lack of Natural Social Structure and Dynamics

Wild elephants create complex and intricate social networks¹¹ that are vital to their welfare, but that cannot be suitably replicated in captivity. All elephant species develop societies characterized by “fission-fusion” dynamics.¹² These societies are typically led by a matriarch, and consist of related females organized into families that associate with other related families to form bonded groups.¹³ Bonded groups may join together to form a clan, and multiple clans may in turn join together to form a population.¹⁴ Related wild female elephants often live together in the same group for life.¹⁵ Importantly, wild herds frequently consist of relatives that include aunts, grandparents, and cousins,¹⁶ which provides important social benefits. In wild African elephants, strong social bonds and high levels of interrelatedness within herds is associated with high rates of reproduction.¹⁷ Male elephants also form their own societies, though the structure is different and more fluid than female societies. Male social networks consist of associations between numerous conspecifics, with older males playing a particularly important role.¹⁸ In contrast to females, wild African male elephants typically disperse from their family herd at around 14 years of age, coinciding with the first onset of musth.¹⁹ Resource availability and distribution within the landscape also influence relationship dynamics of both female and male

¹¹ Meehan, C.L., Hogan, J.N., Bonaparte-Saller, M.K., & Mench, J.A. 2016. Housing and Social Environments of African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in North American zoos. PLoS ONE, 11(7).

¹² Schuttler, S.G., Whittaker, A., Jeffery, K.J., & Eggert, L.S. 2014. African forest elephant social networks: fission-fusion dynamics, but fewer associations. *Endangered Species Research*, 25 (2), 165-173; de Silva, S., Schmid, V., & Wittemyer, G. (2016). Fission–fusion processes weaken dominance networks of female Asian elephants in a productive habitat. *Behavioral Ecology*, 28 (1), 243-252.

¹³ Aureli, F., Schaffner, C.M., Boesch, C., Bearder, S.K., Call, J., Chapman, C.A., Connor, R., Fiore, A.D., Dunbar, R.I., Henzi, S.P., & Holekamp, K. 2008. Fission-fusion dynamics: new research frameworks. *Current Anthropology*, 49 (4), 627-654.

¹⁴ *Id.*

¹⁵ Association of Zoos and Aquariums. 2016. Elephant TAG/SSP Key Messages. Available at: <https://assets.speakcdn.com/assets/2332/elephant-conservation-messages.pdf>; Archie, E., Moss, C. & Alberts S. 2005. The Ties that Bind: Genetic Relatedness Predicts the Fission and Fusion of Social Groups in Wild African Elephants. *Proceedings of the Royal Society*. 273: 1586.

¹⁶ Elephant Trust. 2022. The longest running study on wild elephants. Amboseli Trust for Elephants. Available at: <https://elephanttrust.org/visualization/>.

¹⁷ Gobush, K.S., Mutayoba, B.M., & Wasser, S.K. (2008). Long-term impacts of poaching on relatedness, stress physiology, and reproductive output of adult female African elephants. *Conservation Biology*, 22 (6), 1590-1599.

¹⁸ Hartley, M., Wood, A., & Yon, L. 2019. Facilitating the social behaviour of bull elephants in zoos. *International Zoo Yearbook*, 53, 62-77; Allen, C.R., Brent, L.J., Motsentwa, T., Weiss, M.N., & Croft, D.P. 2020. Importance of old bulls: leaders and followers in collective movements of all-male groups in African savannah elephants (*Loxodonta africana*). *Scientific reports*, 10 (1), 1-9.

¹⁹ Lee, P., Poole, J., Njiraini, N., Sayialel, C., & Moss, C. 2011. Male Social Dynamics: Independence and Beyond. In: Moss, C., Croze, H. and Lee, P. ed. *The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal*. Chicago: University of Chicago Press, 260-271; Srinivasaiah, N., Kumar, V., Vaidyanathan, S., Sukumar, R., & Sinha, A. 2019. All-Male groups in Asian elephants: A novel, adaptive social strategy in increasingly anthropogenic landscapes of southern India. *Scientific reports*, 9 (1), 1-11.

societies.²⁰ The median herd size for wild African savanna elephants is between 9 and 16 individuals.²¹

The complex herd dynamics and social interactions of wild elephants cannot be replicated in a captive environment, which has devastating welfare impacts. In North American zoos, the median herd size, which includes both females and males, is only three individuals.²² Zoos often separate males from females, so the actual median herd size may be even lower than this reported value. The benefits of being kept in herds is further diminished by the common practice of separating individuals during parts of the day. Elephants in zoos spend approximately 37 percent of their time housed apart from other elephants in their herd, with restricted physical access.²³ Male elephant welfare is particularly negatively affected by zoo industry practices regarding herd size and isolation practices. Establishing socially functional male groups in captivity is very difficult, and therefore males are frequently kept in social isolation.²⁴ The creation of more opportunities for natural interactions and the integration of males into herds is essential for male elephant welfare, but rarely implemented by the industry.²⁵

Both males and females are also negatively affected by the zoo industry's common practice of separating related elephants, and disrupting established herds, through frequent transfers between facilities. Structuring captive herds based on kinships encourages more positive social interactions between individual elephants and enhances welfare because it reflects how elephants naturally structure their societies,²⁶ as has been recognized by the Association of Zoos and Aquarium's Elephant TAG/SSP Steering Committee.²⁷ Despite this, 84 percent of all elephants in North American zoos have been transferred at least once in their lifetimes, with a median number of two transfers per elephant, and the maximum number of transfers being eleven.²⁸ As a result of these transfers, 42 percent of all captive-born elephants in North American zoos no

²⁰ Aureli, F., Schaffner, C.M., Boesch, C., Bearder, S.K., Call, J., Chapman, C.A., Connor, R., Fiore, A.D., Dunbar, R.I., Henzi, S.P., & Holekamp, K. 2008. Fission-fusion dynamics: new research frameworks. *Current Anthropology*, 49(4), 627-654.

²¹ Elephant Trust. 2022. The longest running study on wild elephants. Amboseli Trust for Elephants. Available at: <https://elephanttrust.org/visualization/>; Wittemyer, G. 2001. The elephant population of Samburu and Buffalo Springs national reserves, Kenya. *African Journal of Ecology*, 39 (4), 357- 365.

²² Elephant Database. 2022. Available at: <https://www.elephant.se>.

²³ Meehan, C.L., Hogan, J.N., Bonaparte-Saller, M.K., & Mench, J.A. 2016. Housing and Social Environments of African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in North American zoos. *PLoS ONE*, 11(7), e0146703.

²⁴ Hartley, M., Wood, A., & Yon, L. 2019. Facilitating the social behaviour of bull elephants in zoos. *International Zoo Yearbook*, 53, 62-77; Allen, C.R., Brent, L.J., Motsentwa, T., Weiss, M.N., & Croft, D.P. 2020. Importance of old bulls: leaders and followers in collective movements of all-male groups in African savannah elephants (*Loxodonta africana*). *Scientific reports*, 10(1), 1-9.

²⁵ *Id.*

²⁶ Harvey, N. D., Daly, C., Clark, N., Ransford, E., Wallace, S., & Yon, L. 2018. Social interactions in two groups of zoo-housed adult female Asian elephants (*Elephas maximus*) that differ in relatedness. *Animals*, 8, 132.

²⁷ Association of Zoos and Aquariums. 2016. Elephant TAG/SSP Key Messages. Available at: <https://assets.speakcdn.com/assets/2332/elephant-conservation-messages.pdf>.

²⁸ Prado-Oviedo, N.A., Bonaparte-Saller, M.K., Malloy, E.J., Meehan, C.L., Mench, J.A., Carlstead, K., & Brown, J.L. 2016. Evaluation of demographics and social life events of Asian (*Elephas maximus*) and African elephants (*Loxodonta africana*) in North American zoos. *PloS One*, 11(7), e0154750.

longer reside with their mother,²⁹ let alone other family members, which is in stark contrast to how wild elephant societies are structured. These transfers can have profoundly damaging physiological and psychological effects on the individuals being transferred and on herd dynamics of the remaining animals due to herd and family separation, crating, sedation, travel, and introduction to a new facility, diet, environmental conditions, and unknown elephants.³⁰

C. Foot maladies, musculoskeletal issues, and obesity

The majority of elephants held in zoos in North America are afflicted with foot maladies that severely compromise welfare, and many suffer from painful musculoskeletal issues as well. In North American zoos, 67.4 percent of elephants have a foot abnormality.³¹ Common foot abnormalities include lesions in the pads and nails, abscesses, overgrown cuticles, split nails, torsion, and ulcerations, as well as blackleg, which is necrotic inflammation caused by bacterial infection,³² and foot rot.³³ These abnormalities develop due to inactivity, lack of access to natural substrate, and from standing on hard surfaces for long periods of time, often in their own urine and feces.³⁴ A 2016 study found that elephants housed in North American zoos spent up to 66.7 percent of their day on a hard surface.³⁵ Standing on hard surfaces, such as concrete floors, causes cracks and infections within the fat pads of the feet.³⁶ Cracked or infected fat pads do not

²⁹ *Id.*

³⁰ See Clubb, R., Rowcliffe, M., Lee, P., Mar, K.U, Moss, C., & Mason, G.J. 2008. Compromised survivorship, fecundity and population persistence in zoo elephants. *Science*, 322 (5908), 1649. Available at: <https://www.science.org/doi/epdf/10.1126/science.1164298>.

³¹ Miller, M.A., Hogan, J.N., & Meehan, C.L. 2016. Housing and demographic risk factors impacting foot and musculoskeletal health in African elephants (*Loxodonta africana*) and Asian elephants (*Elephas maximus*) in North American zoos. *PLoS One*, 11 (7), e0155223.

³² Wendler, P., Ertl, N., Flügger, M., Sós, E., Schiffmann, C., Clauss, M., & Hatt, J.M. 2019. Foot health of Asian elephants (*Elephas maximus*) in European zoos. *Journal of Zoo and Wildlife Medicine*, 50(3), 513-527; Saddiq, H. M. U., Ali, R. H., Amjad, M. T., Jaleel, S., Ali, S. M., Fatima, N., & Ullah, S. 2020. Post-mortem examination of a female elephant suspected of having Degenerative Joint Disease: A case report. *Advances in Animal Veterinary Science*, 8(10).

³³ Buckley, C. 2001. Captive elephant foot care: natural-habitat husbandry techniques. In: *The elephant's foot* (eds Csuti B, Sargent EL, Bechert U.S.). Ames, IA: Iowa State University Press, 53-55.

³⁴ Wendler, P., Ertl, N., Flügger, M., Sós, E., Schiffmann, C., Clauss, M., & Hatt, J.M. 2019. Foot health of Asian elephants (*Elephas maximus*) in European zoos. *Journal of Zoo and Wildlife Medicine*, 50(3), 513-527; Saddiq, H. M. U., Ali, R. H., Amjad, M. T., Jaleel, S., Ali, S. M., Fatima, N., & Ullah, S. 2020. Post-mortem examination of a female elephant suspected of having Degenerative Joint Disease: A case report. *Advances in Animal Veterinary Science*, 8(10), 1009-1012; Buckley, C. 2001. Captive elephant foot care: natural-habitat husbandry techniques. In: *The elephant's foot* (eds. Csuti B, Sargent EL, Bechert U.S.). Ames, IA: Iowa State University Press, 53-55.

³⁵ Meehan, C.L., Hogan, J.N., Bonaparte-Saller, M.K., & Mench, J.A. 2016. Housing and Social Environments of African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in North American zoos. *PLoS ONE*, 11(7).

³⁶ Panagiotopoulou, O. 2017. Why elephants kept in captivity suffer from sore feet. *The Conversation*. Available at: <https://theconversation.com/why-elephants-kept-in-captivity-suffer-from-sore-feet-70217>; Panagiotopoulou, O., Pataky, T.C., Day, M., Hensman, M.C., Hensman, S., Hutchinson, J.R. and Clemente, C.J. 2016. Foot pressure distributions during walking in African elephants (*Loxodonta africana*). *R. Soc. Open Sci.* 3: 160203. <http://dx.doi.org/10.1098/rsos.160203>.

properly absorb the pressure of an elephant's weight, which in turn increases the likelihood of disease occurring on the outside of the foot and nails.³⁷

Musculoskeletal impairments are also a prevalent health concern for captive elephants, which greatly reduces their quality of life. Such impairments include degenerative joint disease, low bone density, arthritis, abscesses, hernias, osteoarthritis, skin calluses, and knee swelling.³⁸ Standing on hard surfaces is a significant contributing factor in the development of these maladies,³⁹ and a high percentage of elephants housed in North American zoos suffer from these afflictions.⁴⁰

Elephants' susceptibility to foot and musculoskeletal maladies increases in obese individuals. Obesity is widespread in elephants housed in North American zoos, with nearly 75 percent of elephants having a body condition score above normal.⁴¹ Captive diets typically consist of high quantities of pelleted food, fruit, and vegetables, which elephants are not required to forage for. This diet, in combination with reduced space for exercise, creates conditions that predispose animals to the physical ailments discussed above, which greatly compromises welfare.

D. Inadequate Enclosure size

The size of enclosures provided by zoos is entirely inadequate to meet the physical and mental needs of elephants. The home range size of wild savanna African elephants in Kenya and Tanzania is 6,130 to 7,025 km², with the minimum and maximum range being 5,290 to 7,790 km², respectively.⁴² For African forest elephants in Gabon, the average home range size for males and females was 195 km², with the average home range size for males being approximately 16 km² larger than the size for females.⁴³ Notably, range varies between females and males, and changes according to the season.⁴⁴ Other factors that impact range size include species (i.e., forest versus savanna elephants), protected area size, food availability, water

³⁷ *Id.*

³⁸ Miller, M.A., Hogan, J.N., & Meehan, C.L. 2016. Housing and demographic risk factors impacting foot and musculoskeletal health in African elephants (*Loxodonta africana*) and Asian elephants (*Elephas maximus*) in North American zoos. PLoS One, 11(7), e0155223.

³⁹ *Id.*

⁴⁰ Lewis, K.D., Shepherdson, D.J., Owens, T.M., & Keele, M. 2010. A survey of elephant husbandry and foot health in North American zoos. Zoo Biology, 29(2), 221-236.

⁴¹ Morfeld, K.A., Meehan, C.L., Hogan, J.N., & Brown, J.L. 2016. Assessment of body condition in African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in North American zoos and management practices associated with high body condition scores. PloS one, 11(7), e0155146.

⁴² Ngene, S., et al. 2017. Home range sizes and space use of African elephants (*Loxodonta africana*) in the Southern Kenya and Northern Tanzania borderland landscape. International Journal of Biodiversity and Conservation, Vol. 9(1), pp. 9-26. Available at: <https://academicjournals.org/journal/IJBC/article-full-text-pdf/FAEAAFB62312>.

⁴³ Beirne, C., Houslay, T.M., Morkel, P., Clark, C.J., Fay, M., Okouy, J., White, L.J.T., and Poulsen, J.R. 2021. African forest elephant movements depend on time scale and individual behavior. Nature Scientific Reports, 11:12634. Available at: <https://www.nature.com/articles/s41598-021-91627-z>.

⁴⁴ *Id.*

sources, terrain, poaching pressure, and human-elephant conflict.⁴⁵ Ranges that are smaller than the average are often due to restrictions imposed by human development and activities.⁴⁶

In North America, the Association of Zoos and Aquariums has previously recommended a minimum of 0.12 acres per elephant,⁴⁷ which is on the order of thousands of times smaller than the typical range of a wild elephant. These minimum enclosure size requirements are not established based on the needs and welfare of captive animals, but rather are based on the amount of land that is available at each facility. As to the average size of captive elephant facilities in North America, the average space experienced by individual elephants (a weighted measure of time spent divided by the number of elephants sharing the area) in outdoor pens was just under 4,000m², with a range of 70m² to some 18,000 m² while indoor areas average only 129 m² in size.⁴⁸ The minimum size required by the industry, as well as the average size provided by facilities, is unequivocally inadequate to meet the complex needs of elephants.

Although the zoo industry has attempted to justify the miniscule enclosures within their facilities based on optimal foraging theory, which posits that captive animals whose dietary needs are provided to them in full do not require the same range size as their wild counterparts, this is undermined by empirical evidence of the distances that elephants travel even in captivity. In North American zoos, researchers have found that African elephants walked an average of 5.4 kilometers/day (range of 2.2 to 9.7), a distance at the low end of the 5-10 kilometers/day walked by their wild counterparts.^{49,50} These researchers concede, however, that, due to study design limitations, they could not determine if “elephants would walk more if housed in exhibits larger than those currently represented in the North American zoos participating in this study.” Elephants’ instinctive need to engage in exploratory behavior, which in the wild is driven largely by resource demands, is not eradicated based on their captive circumstances, and small enclosure sizes negatively impact welfare in a manner that cannot be overstated.

E. Infectious disease

⁴⁵ *Id.*

⁴⁶ Williams, C., Tiwari, S.K., Goswami, V.R., de Silva, S., Kumar, A., Baskaran, N., Yoganand, K. & Menon, V. 2020. *Elephas maximus*. The IUCN Red List of Threatened Species 2020.

⁴⁷ Association of Zoos and Aquariums. 2012. AZA Standards for Elephant Management and Care. Available at: https://assets.speakcdn.com/assets/2332/aza_standards_for_elephant_management_and_care.pdf.

⁴⁸ Meehan, C.L., Hogan, J.N., Bonaparte-Salle, M.K. & Mench, J.A. 2016. Housing and social environments of African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in North American zoos. PLoS ONE 11(7): e0146703. doi:10.1371/journal.pone.0146703

⁴⁹ Holdgate, M.R., Meehan, C.L., Hogan, J.N., Miller, L.J., Soltis, J., Andrews, J., & Shepherdson, D.J. 2016. Walking behavior of zoo elephants: associations between GPS-measured daily walking distances and environmental factors, social factors, and welfare indicators. PLoS one, 11(7), e0150331.

⁵⁰ As to daily movements, Mills et al. (2018) in their study of forest elephants in Gabon found that the animals traveled, on average, 8 kilometers per day. Mills, E.C., et al. 2018. Forest elephant movement and habitat use in a tropical forest grassland mosaic in Gabon. PLoS ONE 13(7): e0199387. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6040693/pdf/pone.0199387.pdf>. African savanna elephants can walk up to 28 kilometers per day according to a 2020 study by Mobasher and Buckley. Mobasher, A., and Buckley, C. 2020. Elephants, mobility and captivity: what can these mighty and majestic animals teach us about joint health and osteoarthritis? Preprints 2020, 2020120271 (doi: 10.20944/preprints202012.0271.v2).

The prevalence and spread of infectious disease, notably Elephant Endotheliotropic Herpesvirus (EEHV) and tuberculosis, within captive elephant populations presents serious welfare concerns. EEHV infects both Asian and African elephants in captivity,⁵¹ though the impact is particularly severe in Asian elephants.⁵² EEHV is a significant cause of infant and juvenile mortality in captive Asian elephants, causing approximately 50 percent of such deaths in North American zoos.⁵³ Although the virus does occur in wild populations, the mortality rate in the wild is far lower than seen in captive elephants,⁵⁴ likely because the risk factors associated with the spread of the disease are inextricably linked with the conditions of captivity. Specifically, the virus is shed at high rates during stressful events that are inherent in the way that elephant populations are managed in zoos, such as early weaning, internal alterations in herd structure within a facility, transferring individuals between facilities, and stress associated with birth events in the herd.⁵⁵

⁵¹ Jesus, S.A., Doherr, M.G., & Hildebrandt, T.B. 2021. Elephant Endotheliotropic Herpesvirus Impact in the European Asian Elephant (*Elephas maximus*) Population: Are Heritability and Zoo-Associated Factors Linked with Mortality? *Animals*, 11 (10), 2816; Howard, L. L. 2022. Elephant Endotheliotropic Herpesvirus. EEHV Advisory Group Global Symposium.

⁵² Long, S.Y., Latimer, E.M., & Hayward, G.S. 2016. Review of elephant endotheliotropic herpesviruses and acute hemorrhagic disease. *ILAR journal*, 56(3), 283-296.

⁵³ Howard L.L. & Schaftenaar W. 2019. Elephant endotheliotropic herpesviruses. In: Miller R.E., Lamberski N., and Calle P (eds.), *Fowler's zoo and wild animal medicine. Current therapy Vol. IX*. St. Louis, Missouri: Elsevier Inc., 672-679; Jesus, S.A., Doherr, M.G., & Hildebrandt, T.B. 2021. Elephant Endotheliotropic Herpesvirus Impact in the European Asian Elephant (*Elephas maximus*) Population: Are Heritability and Zoo-Associated Factors Linked with Mortality? *Animals*, 11(10), 2816; *see also* Zachariah, A., Zong, J.C., Long, S.Y., Latimer, E.M., Heaggans, S.Y., Richman, L.K., & Hayward, G.S. 2013. Fatal herpesvirus hemorrhagic disease in wild and orphan Asian elephants in southern India. *Journal of wildlife diseases*, 49(2), 381-393; Reid C.E., Hildebrandt T.B., Marx N., Hunt M., Thy N., Reynes J.M., Schaftenaar W. & Fickel J. 2006. Endotheliotropic elephant herpes virus (EEHV) infection. *Veterinary Quarterly*, 28(2):61-64; Hoornweg, T.E.; Schaftenaar, W.; Maurer, G.; van den Doel, P.B.; Molenaar, F.M.; Chamouard-Galante, A.; Vercammen, F.; Rutten, V.P.M.G.; & de Haan, C.A.M. 2021. Elephant Endotheliotropic Herpesvirus Is Omnipresent in Elephants in European Zoos and an Asian Elephant Range Country. *Viruses*, 13, 283. Available at: <https://doi.org/10.3390/v13020283>; Howard, L. L. 2022. Elephant Endotheliotropic Herpesvirus. EEHV Advisory Group Global Symposium.

⁵⁴ Howard L.L. & Schaftenaar W. 2019. Elephant endotheliotropic herpesviruses. In: Miller R.E., Lamberski N., and Calle P (eds.), *Fowler's zoo and wild animal medicine. Current therapy Vol. IX*. St. Louis, Missouri: Elsevier Inc., 672-679.

⁵⁵ Sanchez, C.R., Wagener, T., Nevitt, D., Latimer, E., & Brown, J. (2016). Correlation between serum and urinary cortisol levels and shedding of elephant endotheliotropic herpesvirus (EEHV) 1, 3, 4 and 5 in calves and adult Asian elephants (*Elephas maximus*) pre- and post-arrival of a new bull elephant. *Proceedings of the Joint AAZV / EAZWV / IZW Conference*, 43–44. Atlanta, Georgia; Titus, S. E., Patterson, S., Prince-Wright, J., Dastjerdi, A., & Molenaar, F. M. (2022). Effects of between and within Herd Moves on Elephant Endotheliotropic Herpesvirus (EEHV) Recrudescence and Shedding in Captive Asian Elephants (*Elephas maximus*). *Viruses*, 14 (2), 229; Pursell, T., Spencer Clinton J.L., Tan, J., Peng, R., Qin, X., Doddapaneni, H., Menon, V., Momin, Z., Kottapalli, K., Howard, L., Latimer, E., Heaggans, S., Hayward, G.S., and Ling, P.D. 2021. Primary infection may be an underlying factor contributing to lethal hemorrhagic disease caused by elephant endotheliotropic herpesvirus 3 in African elephants (*Loxodonta africana*). *Microbiol Spectr* 9:e00983-21. Available at: <https://doi.org/10.1128/Spectrum.00983-21>; *see also* Hoornweg, T.E.; Schaftenaar, W.; Maurer, G.; van den Doel, P.B.; Molenaar, F.M.; Chamouard-Galante, A.; Vercammen, F.; Rutten, V.P.M.G.; & de Haan, C.A.M. 2021. Elephant Endotheliotropic Herpesvirus Is Omnipresent in Elephants in European Zoos and an Asian Elephant Range Country. *Viruses*, 13, 283.

In addition to EEHV, tuberculosis (TB) has infected captive elephants at concerning rates for decades. Since the mid-1990s alone, at least 60 elephants in North American zoos have been infected with TB, and several have died as a result.⁵⁶ TB most commonly occurs in captive Asian elephants, although evidence suggests that it also occurs in captive African elephants.⁵⁷ The TB variant that infects humans can be transmitted from humans to elephants, and an infected elephant can infect not only other elephants, but also pass the virus to humans, which has been confirmed in several geographic localities and presents a particular risk to zoo staff.⁵⁸

F. Low birth rates and mortality

Based in large part on the various issues raised above, captive elephants have very low birth rates and high infant mortality rates.⁵⁹ Infant deaths in captivity that are associated with calf rejection, infanticide, and female reproductive disorders are significantly greater than observed in the wild.⁶⁰ Regarding female reproductive disorders specifically, zoos often engage in prolonged and repeated artificial insemination procedures, which create significant stress and trauma for individuals undergoing such procedures.⁶¹ Additionally, captive African elephants have lifespans that are decades shorter than their wild counterparts.⁶² The median lifespan for wild African elephants is 56 years,⁶³ compared to 16.9 years for female African elephants in captivity in European zoos and an average of 33 years in North American zoos.⁶⁴ No captive elephants in

⁵⁶ Fobar, R. 2020. Captive elephants can spread tuberculosis to humans—an issue that’s been ignored. African Elephant Journal. Available at: <https://africanelephantjournal.com/captive-elephants-can-spread-tuberculosis-to-humans-an-issue-thats-been-ignored/>.

⁵⁷ Mikota S. and Maslow J.N. 2011. Tuberculosis at the human-animals interface: An emerging disease of elephants. *Tuberculosis*, 91:208-211; Mikota S., Larsen R.S., & Montali R.J. 2000. Tuberculosis in elephants in North America. *Zoo Biology*, 19:393-404.

⁵⁸ Paudel, S. & Sreevatsan, S. 2020. Tuberculosis in elephants: Origins and evidence of interspecies transmission. *Tuberculosis*, 123, 101962; Ong B.L., Ngeow Y.F., Abdul Razak M.F.A., Yakubu Y., Zakaria Z., Mutalib A.R., Hassan L., Ng H.F. & Verasahib K. 2013. Tuberculosis in captive elephants (*Elephas maximus*) in Peninsular Malaysia. *Epidmiology & Infection*, 141:1481-1487; Mikota S. and Maslow J.N. 2011. Tuberculosis at the human-animals interface: An emerging disease of elephants. *Tuberculosis*, 91:208-211.

⁵⁹ Hagan, D., Paxton, S., & Andrews, J. 2020. Population Analysis & Breeding and Transfer Plan African Elephant (*Loxodonta africana*) AZA Species Survival Plan® Yellow Program. Association of Zoos & Aquariums: Population Management Center, 2-46.

⁶⁰ Hartley, M., & Stanley, C. 2016. Survey of reproduction and calf rearing in Asian and African elephants in Europe. *Journal of Zoo Aquarium Research*, 4, 139-146.

⁶¹ Rees, P.A. 2003. Asian elephants in zoos face global extinction: Should zoos accept the inevitable? *Oryx*, 37(1), 20-22.

⁶² Paxton, S. 2018. North American Regional Studbook African Elephant (*Loxodonta africana*). Indianapolis Zoo, 3-130; Keele, M. 2014. Asian Elephant (*Elephas maximus*) North American Regional Studbook. Association of Zoos and Aquariums: Oregon Zoo, 5- 237.

⁶³ See Clubb, R., Rowcliffe, M., Lee, P., Mar, K.U, Moss, C., & Mason, G.J. 2008. Compromised survivorship, fecundity and population persistence in zoo elephants. *Science*, 322 (5908), 1649. Available at: <https://www.science.org/doi/epdf/10.1126/science.1164298>.

⁶⁴ *Id.*; see also Wiese, R. & Willis, K. (2004). Calculation of Longevity and Life Expectancy in Captive Elephants. *Journal of Zoo Biology*, 23(4), 365-373.

North American facilities have reached the maximum age range seen in the wild of approximately 75-80 years.⁶⁵

The evidence provided above clearly indicates that African elephants suffer from extremely poor welfare that is inherent in keeping this species in captivity. To truly protect African elephants, the USFWS should prohibit future imports of wild-sourced, live elephants.

II. Expansion of the “Suitably Equipped” Requirements is Warranted but the Relevant Criteria Must be Reevaluated to prevent the cruel treatment and Suffering of Captive African Elephants:

The USFWS proposes to require a special purpose permit issued under 50 C.F.R. § 17.32 when live African elephants “may be sold or offered for sale in interstate commerce and delivered, received, carried, transported, or shipped in interstate commerce in the course of a commercial activity.”⁶⁶ For intrastate sale or transfer of African elephants, the USFWS notes that such activities are “regulated by State law, and in some cases subject to a permit condition and CITES use after import requirements[.]”⁶⁷ Such a special use permit would apply to all African elephants, including any offspring, and would “require a finding that the proposed recipient is suitably equipped to house and care for the live elephant,”⁶⁸ thereby closing a significant loophole in the existing regulations, which do not currently require such a finding when African elephants are sold or transferred to zoos within the United States.

While recognizing our opposition to the trade in wild-sourced, live African elephants, we support the proposed requirement to ensure that a “suitably equipped” finding is made prior to the sale or transfer of captive African elephants already in the United States. Such a rule change is consistent with CITES requirements and, ostensibly, should prevent captive elephants from being sold or transferred to any facility that is not suitably equipped to house and care for the animal.

Such a rule change, however, is a small step towards improving the welfare and well-being of captive African elephants. Fundamentally, as articulated above, the best available scientific evidence demonstrates that the physical, psychological, social, cognitive, and behavioral needs of African elephants cannot be replicated in a captive environment. This calls into question the veracity of any “suitably equipped” finding made by the USFWS in the past (e.g., for the Dallas, Sedgwick County, and Henry Porter Zoos prior to authorizing the imports of wild-sourced, Appendix I elephants from Eswatini in 2016) or any that may be made in the future.

There is not a single facility, private or public, in the United States that can fully replicate the conditions that African elephants experience in the wild. While select elephant sanctuaries in the United States, particularly The Elephant Sanctuary in Tennessee⁶⁹ and the Performing Animal

⁶⁵ Lee, P.C., Bussière, L.F., Webber, C.E., Poole, J.H., & Moss, C.J. 2013. Enduring consequences of early experiences: 40 year effects on survival and success among African elephants (*Loxodonta africana*). *Biology Letters*, 9(2), 20130011.

⁶⁶ See 87 Fed. Reg. 68,975, 68,985.

⁶⁷ *Id.* at 68,975, 68,986.

⁶⁸ *Id.*

⁶⁹ See The Elephant Sanctuary. Available at: <https://www.elephants.com/>.

Welfare Society in California,⁷⁰ provide the best opportunity for captive elephants to live out their lives in an environment that is suited to protect their well-being, even these facilities cannot fully satisfy the spatial or social requirements of African elephants. Instead of continuing to advocate for keeping African elephants in captivity—even in facilities deemed “suitably equipped” to care for the animals—the USFWS, Association of Zoos and Aquariums, other zoological associations, and individual zoological parks should strive to phase out African elephants from public display. This could be done by ceasing all breeding, allowing the animals to live out their lives in their current facilities or transferring them to well managed sanctuaries, and prohibiting the future import of African elephants. There is no meaningful conservation benefit derived from relegating elephants to a lifetime in a captive environment that compromises their welfare. Any facility dedicated to the conservation of the species should support programs to conserve the species in the wild in lieu of keeping the animals in captivity.

Even if the USFWS believes that there is a conservation benefit to keeping African elephants in captivity, the entire process for permitting live imports—including the making of “suitably equipped” findings—warrants reevaluation. Specifically, the USFWS should consider the following:

1. Whether any African elephant from an Appendix I population, if imported into the United States, can subsequently be sold or offered for sale to another facility in the United States. CITES prohibits the trade in Appendix I specimens for primarily commercial purposes.⁷¹ While zoos engaged in the trade of Appendix I African elephants have circumvented that prohibition by claiming to import the animals for noncommercial purposes, the proposed rule suggests that African elephants from an Appendix I population, once imported, can be sold in interstate or intrastate commerce.⁷² Since an African elephant from an Appendix I population does not lose that designation upon capture or export to an ex-situ facility, permitting the sale of such an animal after import would be inconsistent with the intent of CITES and would undermine the protections afforded by an Appendix I listing. Furthermore, allowing the sale of such animals would violate 50 C.F.R. § 23.55(a), which explains that Appendix I species, with very limited exceptions, “may be used only for noncommercial purposes.” Any distinction between the sale or offer for sale of Appendix I and Appendix II listed African elephants after import into the United States must be clarified in the final rule.
2. Clarifying the USFWS’s authority to regulate the intrastate sale or transfer of African elephants. The proposed rule suggests that intrastate movement of African elephant is regulated by state law and, in some cases, “subject to a permit condition and CITES use after import requirements.”⁷³ While 50 C.F.R. § 23.55 provides some guidance as to the use after import restrictions, it is not clear what is meant by “subject to a permit condition.” The USFWS should clarify whether that is a permit condition imposed by the USFWS or by a state agency under the relevant state law. The USFWS should also

⁷⁰ See Performing Animal Welfare Society. Available at: <https://www.pawsweb.org/>.

⁷¹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, Art. III (1973). Available at: <https://cites.org/sites/default/files/eng/disc/CITES-Convention-EN.pdf>.

⁷² See 87 Fed. Reg. 68,975, 68,985.

⁷³ *Id.* at 68,975, 68,986.

clarify the authority it has to impose permit requirements when an African elephant is sold or transferred intrastate.

3. Whether its proposal to require a “suitably equipped” finding for all recipients of African elephants within the United States should be applied retroactively to ensure that all U.S. facilities currently holding African elephants in captivity meet this standard. The USFWS notes that there are a minimum of 146 captive African elephants being held at 33 institutions in the United States.⁷⁴ This number is considered a minimum because it does not include any African elephants held at private sanctuaries and any facilities holding African elephants that do not share data on African elephants with the Species 360 Zoological Information Management System.⁷⁵ It is not clear how many of the 33 institutions currently holding African elephants in captivity have been deemed to be “suitably equipped” to do so by the USFWS. If the final rule retains the requirement that a “suitably equipped” finding be made for all institutions receiving African elephants, the USFWS should endeavor to inspect each facility holding elephants. This would not require an extensive investment of time or resources by USFWS inspectors, and would provide some assurance that all facilities known to be holding African elephants are “suitably equipped” to care for the species.
4. Revising and strengthening its criteria at 50 C.F.R. § 23.65(c) and (e) to make a finding of “suitably equipped” findings more substantive and meaningful and to adopt specific rules for African elephants held in captivity. African elephants should qualify for species-specific rules given their unique physical, psychological, social, cognitive, and behavioral needs and due to the significant controversy associated with keeping such large, wide-ranging, powerful, dangerous, and sentient animals in captivity. Even if the USFWS prohibited the future import of African elephants (from a wild or captive source) to be held in a US facility—as it should—such species-specific rules should still be promulgated to improve the welfare standards for the 146 African elephants currently held at United States institutions. Amendments to the existing regulations that govern a “suitably equipped” finding should include the following rules specific to African elephants:
 - a. Establishing, in collaboration with African elephant experts, including experts on the physical, psychological, social, cognitive, and behavioral characteristics of wild elephants, a minimum size requirement per elephant for on and off display pens, paddocks, yards, or other areas used to contain elephants. The current spatial standard of providing “sufficient space to allow each animal to make normal postural and social adjustments with adequate freedom of movement” in 50 C.F.R. § 23.65(c)(1) is woefully inadequate for any animal and, in particular, for African elephants, who utilize massive geographic areas in the wild.⁷⁶ The

⁷⁴ *Id.* at 68,975, 68,985.

⁷⁵ *Id.*

⁷⁶ While the home range size of African elephants can vary depending on several factors including the season, rainfall amounts and distribution, human disturbances and land use, water availability, cover, sex of the animals, and food availability, in one study in the Amboseli ecosystem within the borderlands between Kenya and Tanzania, Ngene et al. determined that the monthly range for all elephants was 6,130 to 7,025 km² with the minimum and maximum range being 5,200 and 7,790 km² respectively. Ngene, S.,

current standard is also unclear in its meaning as to what constitutes “normal postural and social adjustments with adequate freedom of movement” for an African elephant.

- b. Establishing, in collaboration with wild and captive elephant experts as well as experts in developing enrichment programs for African elephants, a comprehensive elephant enrichment rule that includes creation of a best enrichment practices document. This document should be subject to routine review and revision to ensure that the best elephant enrichment practices are available to all facilities holding this species. Such practices must mandate soft substrates in African elephant indoor and outdoor facilities to reduce foot, foot pad, toe nail, and leg injuries as well as other ailments, yards/pens with diverse horizontal and vertical landscapes facilitating exploration as well as the ability to avoid contact with human visitors to the facilities, and feeding strategies designed to compel the animals to move and search for their food. The current standards in 50 C.F.R. § 23.65 (c)(2) are not sufficient to ensure proper enrichment for African elephants.⁷⁷
- c. Ensuring that any off-exhibit area is of a sufficient size to fully meet the physical, psychological, social, cognitive, and behavioral needs of African elephants and that all such facilities contain only soft substrates. The current rule at 50 C.F.R. § 23.65 (c)(3) is insufficient for African elephants.
- d. Establishing, in consultation with relevant experts on the care of African elephants in captivity, including experts from elephant sanctuaries, the species-specific training and experience criteria required for those engaged in the daily care of African elephants. The current rule at 50 C.F.R. §23.65 (c)(5) does not include specific training or experience requirements, which suggests that an

et al. 2017. Home range sizes and space use of African elephants (*Loxodonta africana*) in the Southern Kenya and Northern Tanzania borderland landscape. International Journal of Biodiversity and Conservation, Vol. 9(1), 9-26. Available at: <https://academicjournals.org/journal/IJBC/article-full-text-pdf/FAEAAFB62312>. As to daily movements, Mills et al. (2018) in their study of forest elephants in Gabon found that the animals traveled, on average, 8 kilometers per day. Mills, E.C., et al. 2018. Forest elephant movement and habitat use in a tropical forest grassland mosaic in Gabon. PLoS ONE 13(7): e0199387. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6040693/pdf/pone.0199387.pdf>. African savanna elephants can walk up to 28 kilometers per day according to a 2020 study by Mobasher and Buckley. Mobasher, A., and Buckley, C. 2020. Elephants, mobility and captivity: what can these mighty and majestic animals teach us about joint health and osteoarthritis? Preprints 2020, 2020120271 (doi: 10.20944/preprints202012.0271.v2).

⁷⁷ Notably, on January 9, 2023, the United States Department of Agriculture, Animal and Plant Health Inspection Service published an advanced notice of proposed rulemaking in the Federal Register soliciting public input on “Wild and Exotic Animal Handling, Training of Personnel Involved With Public Handling of Wild and Exotic Animals, and Environmental Enrichment for Species.” 88 Fed. Reg. 1,151 (Jan. 9, 2023). Available at: <https://www.federalregister.gov/documents/2023/01/09/2023-00021/wild-and-exotic-animal-handling-training-of-personnel-involved-with-public-handling-of-wild-and>). Depending on the outcome of this administrative rulemaking process, it could have direct implications on enrichment standards for elephants imposed under the Animal Welfare Act and its implementing regulations.

individual who has minimal experience with the species would be satisfactory to the USFWS when making its “suitably equipped” findings.

- e. Requiring each institution holding captive African elephants to have at least two licensed veterinarians with experience working with and treating elephants as well as a sufficient number of veterinary technicians with experience working with elephants be employed and on site or, if not on site, available around the clock to address any medical needs of the captive animals. A minimum of two veterinarians working at least 40 hours per week should be required to adequately accommodate time off, vacations, sick leave, etc. The current rule at 50 C.F.R. § 23.65(c)(6) does not specify that the veterinarian must have specific experience treating elephants or that the veterinarian even must be on-site at the facility, and is therefore inadequate.
- f. Requiring any zoos or other institutions that have been deemed to be “suitably equipped” to house and care for African elephants to immediately report to the USFWS any African elephant mortalities, injuries, and disease outbreaks, as well as the causes of and responses to such incidents. The USFWS should designate one or more of its offices as the required point of contact for the submission of such information. The current rule at 50 C.F.R. § 23.65(e)(3) suggests that the USFWS considers such information in making its “suitably equipped” finding but does not specify how, when, and to whom such mortality, injury, or disease information is transmitted to the USFWS.
- g. Requiring that the facility provide documentation, reviewed and approved by an independent third party with expertise in accounting/financial procurement, that it has sufficient funding and/or a reliable and permanent funding source to cover the long-term (at least 20 years, given the median lifespan of a captive African female elephant⁷⁸) cost of caring for captive African elephants, including maintenance and improvements to the captive facilities. No facility should be determined to be “suitably equipped” without proving that it has the financial resources to properly maintain and care for African elephants for the majority of their lives. The current rule at 50 CFR 23.65(e)(4) is vague as it fails to quantify the meaning of “sufficient funding” or “long-term.”
- h. Requiring that facilities that desire to hold African elephants in captivity be located in areas where the ambient temperature (both seasonal high and low temperatures) is similar to those experienced by African elephants. Some wild elephants, depending on their location, may be adapted to temperatures outside what is considered the normal range for the species. Nevertheless, any facility, particularly those in northern states that experience long and cold winters, which may require elephants to spend extended time indoors, should not be deemed to

⁷⁸ According to Clubb et al. (2008), the median lifespan of a female captive-born African elephant is 16.9 years while wild female elephants experiencing natural mortality in Amboseli National Park in Kenya was 56 years. Clubb, R., Rowcliffe, M., Lee, P., Mar, K.U, Moss, C., & Mason, G.J. 2008. Compromised survivorship, fecundity and population persistence in zoo elephants. *Science*, 322 (5908), 1649. Available at: <https://www.science.org/doi/epdf/10.1126/science.1164298>.

be “suitably equipped” to house and care for the animals. The current rules do not contain any provisions that consider the role of ambient temperature in determining the suitability of the facility for captive African elephants.

- i. Requiring that facilities seeking a “suitably equipped” finding have sufficient space, facilities, and staff for the following: (1) to provide—to the greatest extent possible—for the social needs of the animals in terms of herd size and structure, (2) to ensure that family groups, particularly female elephants, are kept together for the duration of their lives, and (3) to facilitate interactions between matriarchal groups and male elephants (both adult and bachelor bulls) that emulate conditions in the wild. This may require the ability to separate male and female elephants while ensuring their long-term welfare and well-being in separate “suitably equipped” facilities and the use of immunocontraceptive vaccines or other fertility control strategies to prevent breeding due to any facility infrastructure limitations.⁷⁹ The current rules do not include criteria to ensure that the social needs of African elephants, particularly in regard to herd size, structure, and retention of family groups, are met.
- j. Requiring that a “suitably equipped” finding be made annually to ensure that facilities holding captive African elephants maintain the requisite standards to meet the “suitably equipped” criteria. Institutional management and staffing can change over time, the physical infrastructure to maintain African elephants can degrade, and funding amounts and sources can be variable. It would be inconsistent with the intent of CITES and of the USFWS’s reported interest in ensuring the welfare of captive elephants for a “suitably equipped” finding to be valid for an unlimited period of time. Such a requirement is not contained in the current rules.
- k. Requiring the creation of an agreement or Memorandum of Understanding, if none currently exists, between the USFWS and the USDA’s APHIS Animal Care Unit to ensure that the USFWS is immediately provided with electronic copies of any USDA’s APHIS Animal Care Unit inspection reports for any facilities holding captive African elephants that have been deemed to be “suitably equipped” to hold and care for the animals. Such inspection reports contain information about any evidence of violations of the Animal Welfare Act, including violations relevant to captive African elephants or the facilities in which they are kept. This information should be considered by the USFWS to ensure that such facilities maintain the standards required to meet or exceed the “suitably equipped” criteria. The current rules do not specify the relationship between the USFWS and USDA’s APHIS Animal Care Unit nor do they contain any language

⁷⁹ Considering our position that the USFWS should ban the import of live African elephants, where intact family groups, including male and female elephants, are maintained together to promote the social well-being of the elephants by emulating conditions found in nature, some form of fertility control must be instituted to prevent births. We are aware of no effort to reintroduce captive-born African elephants into the wild, which indicates that there is no meaningful in situ conservation benefit to breeding this species in captivity.

requiring the USFWS to monitor Animal Care inspection reports for facilities containing wild animals, including African elephants.

- I. Requiring facilities housing and caring for African elephants to utilize handling, husbandry, and training techniques that ensure the humane treatment of the animals and that avoid the intentional or unintentional infliction of physical pain or psychological trauma on the elephants, such as through the use of an ankus or bull hook to train the animal to be submissive to humans. Only facilities that utilize protected contact⁸⁰ as their methodology for training captive African elephants should be deemed to be “suitably equipped” to house and care for the animals. The current regulations are silent on any criteria pertaining to the method of training, handling, or husbandry for captive African elephants for making a “suitably equipped” finding.

As noted in the proposed rule, the CITES Animals and Standing Committees agreed to submit for consideration at CITES CoP19 in November 2022 “[n]on-binding guidance for determining whether a proposed recipients of a living specimen of African elephant and/or southern white rhinoceros is suitably equipped to house and care for it.” The parties agreed to adopt this non-binding guidance by consensus at CoP19.⁸¹ While the proposed rule was published during CoP19, since the new guidance has been adopted, the USFWS should explain in the final rule if, how, and when it intends to incorporate this guidance into its existing rules on making “suitably equipped” findings. While we do not agree with the entirety of the non-binding guidance document, it is far more detailed and species-specific than the current USFWS rules at 50 CFR 23.65 and, if incorporated into the final African elephant 4(d) rule or promulgated as a new rule in 50 CFR 23 et seq. it would strengthen the “suitably equipped” findings that the USFWS makes for captive African elephants.

III. The USFWS Should Reevaluate Whether Authorizing the Import of Trophy Hunted African Elephant Trophies Provides a Conservation Benefit to the Species in the Wild

We urge the USFWS to institute a full ban on African elephant trophy imports because trophy hunting provides no meaningful conservation benefits to the species.⁸² The proposed rule would institute some vital interim improvements to the process for evaluating the enhancement value of import permit applications for elephant hunting trophies. However, continuing to allow elephant trophy imports cannot adequately meet the USFWS’s stated goal to “[e]nsure that authorized imports contribute to enhancing the conservation of the species and do not contribute to the decline in populations of the species”⁸³ because there is no credible scientific evidence that trophy hunting consistently benefits conservation.

⁸⁰ Laule, G., and Whittaker, M. 2009. Protected Contact and Elephant Welfare. Published by Active Environments, Lompoc, CA. Available at: https://www.researchgate.net/profile/Margaret-Whittaker-2/publication/265265873_Protected_Contact_and_Elephant_Welfare/links/54e5f0e10cf277664ff1b6e6/Protected-Contact-and-Elephant-Welfare.pdf.

⁸¹ See CITES CoP19 Com. II. Rec. 7.

⁸² See generally, Dellinger, M. 2019. Trophy Hunting – A Relic of the Past. *Journal of Environmental Law and Litigation*. Vol 34; 25-60.

⁸³ See 87 Fed. Reg. 68,975, 68,977.

The USFWS focuses its analysis of trophy hunting on the purported financial benefit to conservation while largely ignoring the impact of trophy hunting on elephant conservation,⁸⁴ wildlife in protected areas,⁸⁵ genetics,⁸⁶ wildlife demography and behavior,⁸⁷ and Africans' cultural and social perceptions of trophy hunting.⁸⁸ In a review of the trophy hunting literature, scientists found that: (1) “[p]opulation and trophy quality trends of commonly hunted species seem to be declining in some countries;” (2) “[e]levated hunting pressure is reported to influence the flight and foraging behavior of wildlife thus compromising fitness of hunted species;” and (3) “[s]elective harvesting through trophy hunting is attributed to the decline in desirable phenotypic traits and increased physiological stress in most hunted species.”⁸⁹ These authors noted that while trophy hunting “provides financial resources need (sic) for conservation in some countries, trophy hunting works well in areas where animal populations are healthy and not threatened by illegal harvesting and other disturbances.”⁹⁰ Such analyses, however, rarely consider the social and cultural attitudes of Africans toward trophy hunting, who predominantly resent what they viewed as “the neo-colonial character of trophy hunting, in the way it privileges Western elites in accessing Africa’s wildlife resources” and that trophy hunting is “objectionable as a consequence of its complex historical and postcolonial associations.”⁹¹ The USFWS should reconsider how it

⁸⁴ Selier, S-A.J., Page, B.R., Vanak, A.T., and Slotow, R. 2013. Sustainability of elephant hunting across international borders in southern Africa: A case study of the greater Mapungubwe Transfrontier Conservation Area. *Journal of Wildlife Management*. Available at: <https://doi.org/10.1002/jwmg.641>

⁸⁵ Jeke, A., Chanyandura, A., Muposhi, V.K., Madhlamoto, D., and Gandiwa, E. 2019. Trophy hunting and possible source-sink dynamics in protected areas: insights from trophy size and offtake patterns in southeast Zimbabwe. *International Journal of Zoology*. Available at: <https://doi.org/10.1155/2019/1313927>.

⁸⁶ Coltman, D.W., O'Donoghue, P., Jorgenson, J.T., Hogg, J.T., Strobeck, C., and Festa-Bianchet, M. 2003. Undesirable evolutionary consequences of trophy hunting. *Nature*, 426:655-658. Available at: http://norskk.is/bytta/standa/trophy_hunting.pdf; Rasmussen, H.B., Okello, J.B.A., Wittemyer, G., Siegismund, H.R., Arctander, P., Vollrath, F., and Douglas-Hamilton, I. 2008. Age- and tactic-related paternity success in male African elephants. *Behavioral Ecology*, 19(1):9-15, doi:10.1093/beheco/arm093; Muposhi, V.K., Gandiwa, E., Makuza, S.M., and Bartels, P. 2017. Ecological, physiological, genetic trade-offs and socio-economic implications of trophy hunting as a conservation tool: a narrative review. *The Journal of Animal & Plant Sciences*, 27(1): 1-14; Allendorf, F.W., England, P.R., Luikart, G., Ritchie, P.A., and Ryman, N. 2008. Genetic effects of harvest on wild animal populations. *Trends in Ecology and Evolution*, 23(6): 327-337.

⁸⁷ Milner, J.M., Nilsen, E.B., Andreassen, H.P. 2007. Demographic Side Effects of Selective Hunting in Ungulates and Carnivores. *Conservation Biology*, 21(1): 36-47. DOI: 10.1111/j.1523-1739.2006.00591.x; Rasmussen, H.B., Okello, J.B.A., Wittemyer, G., Siegismund, H.R., Arctander, P., Vollrath, F., and Douglas-Hamilton, I. 2008. Age- and tactic-related paternity success in male African elephants. *Behavioral Ecology*, 19(1):9-15, doi:10.1093/beheco/arm093.

⁸⁸ Mkono, M. 2019 Neo-colonialism and greed: Africans' views on trophy hunting in social media. *Journal of Sustainable Tourism*, 27 (5): 689–704. Available at: <https://doi.org/10.1080/09669582.2019.1604719>.

⁸⁹ Muposhi, V.K., Gandiwa, E., Makuza, S.M., and Bartels, P. 2017. Ecological, physiological, genetic trade-offs and socio-economic implications of trophy hunting as a conservation tool: a narrative review. *The Journal of Animal & Plant Sciences*, 27(1): 1-14.

⁹⁰ *Id.*

⁹¹ Mkono, M. 2019 Neo-colonialism and greed: Africans' views on trophy hunting in social media. *Journal of Sustainable Tourism*, 27 (5): 689–704. Available at: <https://doi.org/10.1080/09669582.2019.1604719>.

evaluates applications seeking permits to authorize the import of trophy hunted African elephants to incorporate consideration of these other factors.

Although we staunchly oppose the trophy hunting of African elephants, as a general principle, for trophy hunting to provide a conservation benefit, it would have to generate revenue that would be invested back into African elephant conservation. Such investments could be used to remedy human-elephant conflicts, protect elephant habitat, fund population monitoring, and support enforcement/anti-poaching activities. The revenue generated would have to be higher than the value of the elephant if he/she were not killed, including any revenue associated with non-consumptive recreation throughout the lifetime of the animal. While there is ample evidence that a live elephant generates more revenue throughout its lifetime compared to an elephant killed by a trophy hunter (see below), even if we ignore this fact, the USFWS must be able to demonstrate a direct link between the revenue generated by trophy hunting and the in-situ conservation of African elephants.

While the USFWS reports in the proposed rule that its current enhancement findings for the import of trophy-hunted African elephants include “analysis of whether the revenue generated through hunting fees is used to support the conservation of the species” and that it may, “when practicable, ... conduct site visits or other outreach ... to establish whether activities are achieving enhancement of the species,”⁹² it appears that it generally relies on the information provided by the applicant to determine the purported conservation benefit of revenue generated by trophy hunting. We are unaware of any process or capacity of the USFWS to ensure that such funds were allocated for conservation consistent with what is claimed in an application. Without that ability, the alleged “pay to conserve” benefit of trophy hunting is constructed upon a weak foundation that is neither properly documented nor verifiable. This is not to suggest that no trophy hunting revenue benefits conservation, but rather that the current process used by the USFWS to make its enhancement findings cannot verify that such revenue has been spent on species-specific conservation.

Indeed, while the proponents of trophy hunting often claim conservation benefits due to the supposed economic impact of their hunting and tourism spending, and the assumption that this revenue will be used effectively for protecting imperiled species, they vastly overstate the economic benefits of trophy hunting in range states. An analysis of eight African countries including Botswana, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe, found that overall tourism, which relies heavily on wildlife resources in those nations, contributes between 2.8 percent and 5.1 percent of Gross Domestic Product (GDP).⁹³ However, foreign trophy hunters make up less than 0.1 percent of tourists on average, and the total economic contribution of trophy hunters is at most 0.03 percent of GDP.⁹⁴ The economic contribution of trophy hunting amounts to at most 0.78 percent of the \$17 billion in overall tourism spending in the studied countries, and employment associated with trophy hunting tourism is at most 0.76 percent of average direct tourism employment.⁹⁵

⁹² See 87 Fed. Reg. 68,975, 68,987.

⁹³ Murray, C. K. (2017). “The lion’s share? On the economic benefits of trophy hunting.” A report for the Humane Society International, prepared by Economists at Large, Melbourne, Australia. Available at: <https://www.hsi.org/wp-content/uploads/assets/pdfs/economists-at-large-trophy-hunting.pdf>

⁹⁴ *Id.*

⁹⁵ *Id.*

The non-consumptive value of elephants outweighs revenue generated from consumptive uses. For example, tourism from eco or photo safaris, is more profitable in the long term than trophy hunting, and trophy hunting detracts from the development of these alternative models. The standard economic assessment of trophy hunting focuses on the revenue paid by a wealthy, foreign hunter for the opportunity to kill a trophy, in this case an African elephant, and how those funds can benefit elephant conservation, wildlife conservation in general, and community development/infrastructure. Yet such analyses often ignore the non-utilitarian values of an elephant, including the animal's non-consumptive recreational value, existence value, spiritual and cultural value, and ecological value. When incorporating the full suite of values into an economic impact analysis it becomes clear that a live elephant is worth far more throughout its lifetime than an elephant killed by a trophy hunter.

For example, an elephant trophy fee is typically \$20,000 to \$40,000. In contrast, an elephant allowed to live a full lifespan can generate an estimated \$1.6 million in tourism revenues.⁹⁶ Across Africa, it is conservatively estimated that elephant poaching has cost over 25 million annually in direct and indirect economic losses on nature-based tourism economies, which constitute approximately 20 percent of the visits to protected areas in the fourteen African countries that are home to half of the continent's elephant population, and seven percent of the funds required for biodiversity conservation in the ecoregions where elephants occur.⁹⁷ While the economic cost of elephant poaching is greater than that associated with trophy hunting, the removal of each elephant by a hunter has an economic cost that, depending on the age of the elephant at his/her death, can be substantial.

The ecological value of a live African elephant is immense given their role as “ecosystem engineers” and “gardeners of the forest.”⁹⁸ In savanna habitat, African elephants help maintain the savanna landscape through their foraging activities, which benefit innumerable species.⁹⁹ African forest elephants also provide important ecological services, including seed dispersal, herbivory, nutrient cycling, and trampling/physical damage to forest trees that benefit the ecosystems in which they occur.¹⁰⁰ Continent-wide, African elephants create microhabitats that benefit other species, with elephant wallowing contributing to nutrient transport while also

⁹⁶ David Sheldrick. Wildlife Trust. “iWorry: Dead or alive? Valuing an elephant.”

⁹⁷ Naidoo, R., Fisher, B., Manica, A., and Balmford, A. 2016. Estimating economic losses to tourism in Africa from the illegal killing of elephants. *Nature Communications*, 7:13379, DOI: 10.1038/ncomms13379.

⁹⁸ Fritz, H. 2017. Long-term field studies of elephants: understanding the ecology and conservation of a long-lived ecosystem engineer. *Journal of Mammalogy*, 98(3):603–611. DOI:10.1093/jmammal/gyx023; Campos-Arceiz, A., and Blake, S. 2011. Megagardeners of the forest e the role of elephants in seed dispersal. *Acta Oecologica*, 37: 542-553. doi:10.1016/j.actao.2011.01.014.

⁹⁹ Western, D. 1989. The ecological role of elephants in Africa. *Pachyderm*, 12:42-45; Valeix, M., Fritz, H., Sabatier, R., Murindagomo, F., Cumming, D., and Duncan, P. 2011. Elephant-induced structural changes in the vegetation and habitat selection by large herbivores in an African savanna. *Biological Conservation*, 144 (2); 902–912.

¹⁰⁰ Poulsen, J.R., Rosin, C., Meier, A., Mills, E., Nunez, C.L., Koerner, S.E., Blanchard, E., Callejas, J., Moore, S., and Sowers, M. 2018. Ecological consequences of forest elephant declines for Afrotropical forests. *Conservation Biology*, 32(3), 559-567.

creating water holes and microhabitats for other species.¹⁰¹ Even elephant footprints have value as microhabitats for other species.¹⁰² Elephants also help distribute seeds across a landscape via their dung.¹⁰³ Finally, considering their massive size and foraging ecology, African elephants provide carbon sequestration services both directly (by storing carbon in their bodies) and indirectly (by promoting the growth of large trees capable of storing significant amounts of carbon), helping to mitigate the impacts of climate change.¹⁰⁴ Indeed, the carbon sequestration value alone of a single African forest elephant has been estimated at 1.75 million dollars.¹⁰⁵ If all African forest elephants were protected from poaching, their carbon sequestration services “would be worth \$20.8 billion (\$10.3 to \$29.7 billion) and \$25.9 billion (\$12.8 to \$37.6 billion) for the next 10 and 30 y, respectively, and could finance antipoaching and conservation programs.”¹⁰⁶ Conversely, current poaching rates “result in \$2 to \$7 billion of lost carbon services within the next 10 to 30 y, suggesting that the benefits of protecting elephants far outweigh the costs.”¹⁰⁷ In terms of carbon sequestration, the loss of elephants from trophy hunting raises similar concerns as losses from poaching and must be taken into account.

Such ecological services or benefits have economic value to people by providing food, maintaining landscapes used for grazing livestock, creating or enlarging water sources that may be used by livestock and/or people, and sequestering carbon. While the economic value of each of these ecological services, other than carbon sequestration, have not been quantified, where such values have been estimated they should be considered when determining the conservation benefit of elephant management actions, including whether the full ecological and existence value of a live elephant should take precedence over its value as a trophy.

Furthermore, despite claims from the trophy industry, the relatively small amount of revenue generated by trophy hunting is not necessarily used to further conservation. Conservation

¹⁰¹ Bigwood, T. 2011. Geomorphic impacts of *Loxodonta africana* (African elephants) in Tembe Elephant Park. Master’s Thesis. University of Pretoria, Department of Geography, Geoinformatics, and Meteorology. Available at:

<https://repository.up.ac.za/bitstream/handle/2263/30370/dissertation.pdf?sequence=1>; Haynes, G. 2012. Elephants (and extinct relatives) as earth-movers and ecosystem engineers. *Geomorphology*, 157-158: 99–107.

¹⁰² Remmers, W., Gameiro, J., Schaberl, I. and Clausnitzer, V. 2017. Elephant (*Loxodonta africana*) footprints as habitat for aquatic macroinvertebrate communities in Kibale National Park, south-west Uganda. *African Journal of Ecology*, 55 (3): 342-351.

¹⁰³ Bunney, K., Bond, W.J., and Henley, M. 2017. Seed dispersal kernel of the largest surviving megaherbivore—the African savanna elephant. *Biotropica*, 49(3): 395-401.

¹⁰⁴ Chami, R., Cosimano, T., Fullenkamp, C., Berzaghi, F., Espanol-Jimene, Marcondes, M., and Palazzo, J. 2022. The value of nature to our health and economic well-being: a framework with application to elephants and whales. In L. Paganetto (ed.), *Economic Challenges for Europe After the Pandemic*, Springer Proceedings in Business and Economics, https://doi.org/10.1007/978-3-031-10302-5_7

¹⁰⁵ Chami, R., Fullenkamp, C., Cosimano, T., and Berzaghi. 2020. The secret work of elephants. International Monetary Fund, Finance and Development. Available at: <https://www.imf.org/en/Publications/fandd/issues/2020/09/how-african-elephants-fight-climate-change-ralph-chami>

¹⁰⁶ Berzaghi, F., Chami, R., Cosimano, T., and Fullenkamp, C. 2022. Financing conservation by valuing carbon services produced by wild animals. *Proceedings of the National Academy of Sciences*, 119(22). Available at: <https://doi.org/10.1073/pnas.2120426119>.

¹⁰⁷ *Id.*

programs can only be effective if government institutions are able to implement them successfully, and corruption has repeatedly undermined such efforts.^{108,109} Moreover, local communities typically see little of the income generated from trophy hunting, with the money often shared between foreign hunting companies and local elites.^{110,111} We understand that the annual certification requirement for range countries proposed in this rule—an improvement on current USFWS policy—is designed to evaluate whether a range state has effective governance and wildlife management. However, this certification cannot guarantee that trophy hunting will be a net positive for African elephant populations because it relies on self-reporting from governments with interests that may not align with conservation. It therefore does not ensure that elephant populations can withstand hunting quotas or that trophy hunting revenue will be used to improve species protections.

Not only are its conservation funding benefits vastly overstated, but trophy hunting actively hurts the structure and viability of wild elephant populations. Big game hunters target the largest, strongest animals for trophies. Killing members of an elephant herd can result in enormous upheaval for the surviving members of the group, disrupting social bonds and behaviors. The social and ecological knowledge held by key members of a herd is critical for survival and reproduction.¹¹² For instance, killing older bull elephants can create a vacuum of leadership and social guidance,¹¹³ leading to increased aggression in subadult males¹¹⁴ that can exacerbate human-wildlife conflict. Furthermore, the behavioral and genetic effects from selective removal of older bulls through trophy hunting could include: “(1) an earlier onset of musth in younger bulls as they would no longer be repressed by older bulls, (2) increased harassment of females due to an absence of older guarding bulls and potential social chaos when younger bulls are not kept in line, and (3) reduced size of tusks if selection continues for generations.”¹¹⁵ Targeting the largest animals or those with the largest tusks can also have adverse genetic impacts on the population. Recent studies suggest that killing elephants for ivory has resulted in a phenotypic

¹⁰⁸ Benjaminsen, T.A., Goldman, M.J., Minwary, M.Y., and Maganga, F.P. 2013. . Wildlife management in Tanzania: State control, rent seeking and community resistance. *Development and Change*, 44.5: 1087-109. Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/dech.12055>.

¹⁰⁹ Jenkins, N. Who’s Really Responsible for the Killing of Zimbabwe’s Lions and Other Wildlife? *Time Magazine*, 29 July 2015. Available at: <https://time.com/3976344/cecil-lion-zimbabwe-walter-palmer/>.

¹¹⁰ UICN/PACO (2009). *La grande chasse en Afrique de l’Ouest: quelle contribution à la conservation? Big Game Hunting in West Africa. What is its contribution to conservation?* ISBN: 978-2-8317-1204-8.

¹¹¹ Economists at Large. 2013. *The \$200 million question: How much does trophy hunting really contribute to African communities?*, a report for the African Lion Coalition, prepared by Economists at Large, Melbourne, Australia.

¹¹² McComb, K., Shannon, G., Durant, S. M., Sayialel, K., Slotow, R., Poole, J. and Moss, C. 2011. Leadership in elephants: the adaptive value of age. *Proceedings of the Royal Society B: Biological Sciences*, 278(1722): 3270-3276. doi:10.1098/rspb.2011.0168.

¹¹³ Allen, C. R. B., Brent, L. J. N., Motsentwa, T., Weiss, M. N. and Croft, D. P. 2020. Importance of old bulls: leaders and followers in collective movements of all-male groups in African savannah elephants (*Loxodonta africana*). *Scientific Reports*, 10(1): 13996. <https://doi.org/10.1038/s41598-020-70682-y>.

¹¹⁴ Allen, C. R. B., Croft, D. P. and Brent, L. J. 2021. Reduced older male presence linked to increased rates of aggression to non-conspecific targets in male elephants. *Proceedings of the Royal Society B*, 288(1665), 20211374. doi:10.1098/rspb.2021.1374

¹¹⁵ Rasmussen, H.B., Okello, J.B.A., Wittemyer, G., Siegismund, H.R., Arctander, P., Vollrath, F., and Douglas-Hamilton, I. 2008. Age- and tactic-related paternity success in male African elephants. *Behavioral Ecology*, 19(1):9-15, doi:10.1093/beheco/arm093.

shift toward smaller tusks or no tusks among certain populations.^{116,117} Trophy hunting can also result in detrimental alternation of ecosystems, such as through habitat fragmentation (when hunting areas are fenced).¹¹⁸

Additionally, many African elephant populations are already severely depleted due to other threats, such as habitat loss, commercial exploitation, human-elephant conflict, regional conflict and instability, climate change, and a recent poaching crisis.¹¹⁹ By 1978, the number of elephants in Africa had plummeted to 1.3 million from 3-5 million early in the 20th century,¹²⁰ and they were listed as threatened under the ESA.¹²¹ A comprehensive survey of Africa's savanna elephants, published in August 2016, found that their numbers declined by 30 percent between 2007 and 2014, with the rate of decline accelerating over those seven years.¹²² As of 2016, there were approximately 400,000 savanna elephants remaining.¹²³ Between 2002 and 2011, the African forest elephant population declined by 62 percent, and its range was reduced by 30 percent.¹²⁴ Much of this recent decline is attributable to a troubling poaching trend. From 2009 to 2012, it is estimated that over 100,000 elephants were poached across Africa, with estimates ranging from 30,000 to 40,000 per year.¹²⁵ In 2013, as many as 50,000 elephants were killed.¹²⁶

¹¹⁶ Campbell-Staton, Shane C., Arnold, B.J., Goncalves, D., Granli, P., Poole, J., Long, Ryan A., and Pringle, R.M. 2021. Ivory poaching and the rapid evolution of tusklessness in African elephants. *Science*, 374 (6566): 483–487. <https://par.nsf.gov/servlets/purl/10314518>.

¹¹⁷ Allendorf, F. W. and Hard, J. J. 2009. Human-induced evolution caused by unnatural selection through harvest of wild animals. *Proceedings of the National Academy of Sciences* 106: 9987-9994. doi:10.1073/pnas.0901069106.

¹¹⁸ Loveridge, A. J., Reynolds, J.C. and Milner-Gulland, E.J. Does sport hunting benefit conservation? *Key Topics in Conservation Biology* 1st Edition. Ed. David Macdonald and Katrina Service. Malden: Blackwell Publishing, 2007. 222-238.

¹¹⁹ Nellemann, C., Formo, R. K., Blanc, J., Skinner, D., Milliken, T., & De Meulenaer, T. 2013. Elephants in the dust—the African elephant crisis. A rapid response assessment. United Nations Environment Programme, Nairobi, Kenya.

¹²⁰ Douglas-Hamilton, I. 1978. Known elephant numbers and distribution in Africa. *Elephant*, 1(2), 13-14. Doi: 10.22237/elephant/1491234038.

¹²¹ 43 Fed. Reg. 20,499 (May 12, 1978).

¹²² Chase, Michael J., Schlossberg, S., Griffin, C.R., Bouche, P.J.C., Djene, S.W., Elkan, P.W., Ferreira, S., Grossman, F., Kohi, E.M., Landen, K., Omondi, P. Peltier, A., Selier, S.A.J., and Sutcliffe, R. 2016. Continent-wide survey reveals massive decline in African savannah elephants. *PeerJ*, 4:e2354. Available at: <https://doi.org/10.7717/peerj.2354>.

¹²³ Chase, Michael J., Schlossberg, S., Griffin, C.R., Bouche, P.J.C., Djene, S.W., Elkan, P.W., Ferreira, S., Grossman, F., Kohi, E.M., Landen, K., Omondi, P. Peltier, A., Selier, S.A.J., and Sutcliffe, R. 2016. Continent-wide survey reveals massive decline in African savannah elephants. *PeerJ*, 4:e2354. Available at: <https://doi.org/10.7717/peerj.2354>.

¹²⁴ C. Nellemann et al., 2016. UNEP-INTERPOL. The Rise of Environmental Crime: A Growing Threat to Natural Resources, Peace, Development and Security at 39; Fiona Maisels et al., 2014. Devastating Decline of Forest Elephants in Central Africa, *PLOS ONE*, at 1, 3.

¹²⁵ C. Nellemann et al., 2016. UNEP-INTERPOL. The Rise of Environmental Crime: A Growing Threat to Natural Resources, Peace, Development and Security at 46.

¹²⁶ Varun Vira & Thomas Ewing. 2014. Ivory's Curse: The Militarization & Professionalization of Poaching in Africa at 5.

The United States continues to be the world's largest importer of hunting trophies,¹²⁷ undermining both our nation's reputation as a global conservation leader and the integrity of the ESA. We urge the USFWS to protect African elephants by ending the importation of elephant trophies.

IV. The Enhancement Finding Criteria for Both the Trade in Live Elephants and Elephant Trophies Must Be Expanded and Strengthened

As previously indicated, the best available scientific evidence supports a complete prohibition on the trade in live African elephants, elephant trophies, and other elephant parts to promote conservation of the species. If, however, the USFWS elects to continue to permit such trade, then the proposed criteria tied to the annual certification standards for range states desiring to export live elephants or trophies to the United States provides a solid foundation for enhancement findings. Nevertheless, the criteria need to be strengthened and their application expanded.

At the heart of the changes to the African elephant 4(d) rule is the USFWS's proposal to create an annual certification requirement to facilitate and improve its ability to make credible enhancement findings for the import of live African elephants and elephant trophies. To do this, countries wishing to export live elephants or elephant trophies to the United States will have to provide information responding to several criteria on an annual basis. As the USFWS no longer makes country-wide enhancement findings,¹²⁸ this new information would be used to solidify the application-specific findings relevant to each country. Simply put, if an exporting country does not provide the requested information annually or if the information is inadequate, not "properly documented," and/or not "verifiable," then theoretically no exports of live African elephants and/or elephant trophies will be allowed from that country.

Per the explicit request of the USFWS for input on the enhancement criteria,¹²⁹ we have provided an analysis of each criterion below. We include suggestions on how to improve/expand each standard to ensure that the information obtained from the exporting country will be credible and will provide the type of evidence/data that will be most effective in strengthening future enhancement findings.

As a preface for that analysis, there are other relevant matters that must be addressed as well, including the scope of the information collected from exporting range states to make enhancement findings, the public's accessibility to that information, and what constitutes "properly documented" and "verifiable" information.

A. The Scope of the Proposed Annual Certification Requirement Should Be Expanded

¹²⁷ Convention on International Trade in Endangered Species of Wild Fauna and Flora. Convention on International Trade in Endangered Species of Wild Fauna and Flora, n.d. Available at: <https://trade.cites.org/>.

¹²⁸ See 87 Fed. Reg. 68,975, 68,976, 68,987.

¹²⁹ *Id.* at 68,975, 68,984, 68,988.

As proposed, the annual certification requirement only applies to the import of live African elephants and of African elephant trophies.¹³⁰ Inexplicably, the proposed certification process does not apply to countries exporting other elephant parts and products that are not designated as live elephants or elephant trophies to the United States. According to an analysis of data from the CITES trade database¹³¹ for African elephant specimens imported into the U.S. from 2015 through 2020, there are a wide variety of African elephant parts and products including specimens, jewelry, bones, small and large leather products, skins, hair products, feet, trunk, teeth, and ears that are neither live elephants nor elephant trophies, depending on how trophies are defined, as discussed below.

Of all African elephant imports from 2015 through 2020, nearly 50,000 elephant parts and products not classified as live elephants, ivory products, or trophies (as defined in the “term” column of the database) were imported into the United States over that period. Despite the volume of this trade, the USFWS fails to provide any rational explanation in the proposed rule as to why its proposed annual certification requirement does not cover countries exporting any and all African elephant specimens to the United States. In the final rule, we strongly encourage the USFWS to make clear that the proposed annual certification requirement is applicable to every country that desires to export any African elephant specimen to the United States.

For African elephant trophies, the proposed rule does not clarify what constitutes a trophy. As recorded in the CITES trade database and in the data compiled by the USFWS Office of Law Enforcement in its Law Enforcement Management Information System (LEMIS), trophies can be those products imported under CITES purpose code “H” or those products designated in the “term” data column as “trophies” or “TRO.” The difference in the number of parts and products imported as “trophies” versus those imported under purpose code “H” is significant.

According to an examination of the CITES trade database for African elephant imports into the United States from 2016 through 2020, there were 421 (importer reported) or 546 (exporter reported) specimens imported as “trophies” and 1,722 (importer reported) or 1,373 (exporter reported) imported under purpose code “H.” In the final rule, the USFWS must define what constitutes an African elephant trophy (i.e., whether it is products imported under the “TRO” or “trophies” description or products imported under purpose code “H”) so that the scope of the rule is clear. In doing so, we strongly encourage the USFWS to use purpose code “H” as the standard for identifying African elephant trophy imports into the United States.

B. The Information Provided by Exporting Countries in Response to the Annual Certification Requirement Must Be Made Available to the Public

In the proposed rule the USFWS notes that the “annual certification from the range country will be kept on file and made available to the public.”¹³² We thank the USFWS for committing to making this information available to the public, but the agency needs to provide greater clarity on when, where, and how the public will be able to access the information associated with the annual certification. Providing greater clarity is important because it will allow interested

¹³⁰ *Id.*

¹³¹ See United Nations Environment Programme-World Conservation Monitoring Centre CITES Trade Database. Available at: <https://trade.cites.org/>.

¹³² See 87 Fed. Reg. 68,975, 68,992.

stakeholders to understand what steps they will need to take to obtain the information associated with the annual certification. Timely receipt of the information is necessary in the event interested stakeholders want to provide additional information for consideration by the USFWS when assessing the certification information.¹³³ The USFWS should welcome such input as it may aid in making more reliable and informed enhancement findings. If the USFWS requires a Freedom of Information Act request to access the information, then this will hinder the ability of the public to obtain the information in a timely manner, thereby compromising their ability to review and submit additional information for consideration by the USFWS. We, therefore, encourage the USFWS to make the information publicly accessible by posting it to the USFWS webpage on African elephants.¹³⁴

C. The USFWS Must Define “Properly Documented” and “Verifiable”

The proposed rule specifies that the information sought from exporting countries as part of the proposed annual certification process is to be “properly documented” and “verifiable.”¹³⁵ Yet the USFWS fails to define or otherwise provide any explanation of those terms. It is imperative that this be rectified in the final rule so that all stakeholders, including range states, understand what the USFWS means by these terms.

We are not aware of any existing definition of these terms in any statute governing the operations and activities of the USFWS or any rule that it has promulgated. While the USFWS should consider formally defining these terms in the final 4(d) rule, at a minimum it should provide an explanation in the final rule as to what it considers to be “properly documented” and “verifiable” information. Without question, to meet the plain meaning of those terms, the information would have to be in writing, presented in a clear and concise manner, objective, factually and legally accurate, and be based on evidence from the peer-reviewed scientific literature.

In addition, the USFWS must make clear in the final rule that the burden of providing the information for the requisite enhancement findings for range states desiring to export live elephants and/or elephant trophies to the United States must fall on the range state and not on the individual permit applicant. The proposed rule indicates that “[t]he foreign government may provide the certification and information directly to the Service or the applicant may provide it to the Service.”¹³⁶ Requiring permit applicants to obtain information from range states to respond to the enhancement criteria is not efficacious. Obtaining the information directly from the range state will simplify communications if the USFWS has questions about the materials contained in the certification package or if additional information is needed to make an enhancement finding.

¹³³ As African elephants are not presently listed as endangered under the Endangered Species Act, the USFWS is not required to publish and seek public comments on applications for the import or export of African elephant specimens. If African elephants are listed as endangered in the future, the annual certification information from exporting countries would presumably become part and parcel of each application for import and, therefore, subject to public input. While the USFWS should consider including in the 4(d) rule a requirement that all applications to import and export African elephant specimens be subject to public notice and comments, at a minimum, the agency should welcome input on the certification information, even if it is not legally required to solicit such input.

¹³⁴ See United States Fish and Wildlife Service, African Elephants webpage. Available at: <https://www.fws.gov/species/african-elephants-loxodonta>.

¹³⁵ See, e.g., 87 Fed. Reg. 68,975, 68,982, 68,984, 68,988.

¹³⁶ *Id.* at 68975, 68992.

D. The Annual Certification Criteria for the Import of Live African Elephants and Elephant Trophies Must Be Strengthened and Expanded

The proposed certification criteria for the import of live African elephants and elephant trophies, while similar, are evaluated separately below. For each criterion, we provide suggestions on how the USFWS can strengthen and expand the text to ensure it obtains the type of properly documented and verifiable information that will provide the basis for more substantive and accurate enhancement determinations.

Live African elephant import certification criteria:¹³⁷

1. “African elephant populations in the range country are stable or increasing, as well as sufficiently large to sustain removal of live elephants at the level authorized by the country”

In the preamble text of the final rule, the USFWS should make clear what type of evidence must be submitted to properly document and verify that elephant populations in a range country are “stable or increasing,” who is to make that determination (e.g., the range state, IUCN, independent scientists), how many years of population data is necessary to determine a trend, and that such evidence must be submitted for each elephant population, including transboundary populations, or, at a minimum, for those elephant populations targeted for the potential capture and removal of live elephants in the range country.

The final rule also should more clearly articulate what constitutes a “sufficiently large” population to sustain elephant removals and what factors must be considered in making such a sustainability determination. Such factors may include the impact on: (1) the social dynamics of remaining elephants in the population including any elephants from any specific family group targeted who are not captured; (2) matriarchal knowledge and leadership amongst remaining animals; (3) population structure and dynamics due to mortality rates associated with other natural or anthropogenic factors; and (4) the local ecosystem due to the loss of the ecological services provided by individual elephants.

2. “Regulating authorities have the capacity to obtain sound data on these populations using scientifically-based methods consistent with peer-reviewed literature”

Recognizing that the methodologies used to count elephants are constantly being refined and reinvented, the USFWS should articulate the methodologies that it finds, based on a comprehensive review of the relevant literature, the most accurate and reproducible for counting, surveying, or assessing elephant populations. Notably, the methodologies may differ depending on the type of habitat (e.g., forest or savanna) and that the most accurate counts may result from combining the findings from multiple methodologies. Such methodologies may include transect-based land or aerial overflights,¹³⁸ the use of drone

¹³⁷ *Id.* at 68,974, 68,984.

¹³⁸ Whitehouse, A.M., Hall-Martin, A.J., and Knight, M.H. 2003. A comparison of methods used to count the elephant population of the Addo Elephant National Park, South Africa. *African Journal of Ecology*.

technology,¹³⁹ nighttime surveys using infrared technology,¹⁴⁰ satellites,¹⁴¹ and dung counts.¹⁴² Each methodology has its strengths and weaknesses and is based on certain assumptions which the USFWS should require range states to identify and explain in their annual submissions. Furthermore, should the range state use extrapolation to estimate elephant population size, it is imperative that the assumptions underlying such extrapolation methodologies be disclosed and that the range state explain why it chose to use a particular extrapolation methodology over others that are available.

3. “Regulating authorities recognize these population as a valuable resource and have the legal and practical capacity to manage them for their conservation”

It is unclear how the USFWS can obtain “properly documented” and “verifiable” information that a range state recognizes its African elephants as a “valuable resource.” A range state could merely assert such a claim in its certification materials and, absent evidence to the contrary, the USFWS presumably would accept the information at face value. Consequently, the USFWS should explicitly request documents, including the range state’s constitution, statutes, and regulations, as applicable, that provide evidence of its recognition that its wildlife, including elephants, are valuable resources. This same information, along with any policies, management plans/strategies, or other relevant written documents should be requested to determine if the range state has the “legal ... capacity to manage (elephants) for their conservation.”

Furthermore, the USFWS must clarify what it means by “practical capacity” in the context of this criterion. The USFWS should address whether such “practical capacity” includes the number of employees (i.e., managers, scientists, law enforcement personnel) dedicated to African elephant conservation, the amount of funding available for elephant conservation, and the political will of the government and its leadership to conserve elephants. Without providing additional information about how a range state is to meet this standard, this factor provides little value in determining enhancement.

4. “Regulating governments follow the rule of law concern [sic] African elephant conservation and management”

Available at: <https://doi.org/10.1046/j.1365-2028.2000.00285.x>; Bouché, P., Lejeune, P., and Vermeulen, C. 2012. How to count elephants in West African savannahs? Synthesis and comparison of main gamecount methods. *Biotechnol. Agron. Soc. Environ.* 16(1), 77-91; Greene, K., Bell, D., Kioko, J., and Kiffner, C. 2017. Performance of ground-based and aerial survey methods for monitoring wildlife assemblages in a conservation area of northern Tanzania. *European Journal of Wildlife Research.* 63(77). Available at: <https://doi.org/10.1007/s10344-017-1133-2>.

¹³⁹ Vermeulen, C., Lejeune, P., Lisein, J., Sawadogo, P., and Bouché, P. 2013. Unmanned Aerial Survey of Elephants. *PLoS ONE* 8(2): e54700. doi:10.1371/journal.pone.0054700.

¹⁴⁰ Marais, J.C. 2018. Automated elephant detection and classification from aerial infrared and colour images using deep learning. Master’s Thesis. Stellenbosch University.

¹⁴¹ Duporge, I., Isupova, O., Reece, S., Macdonald, David W., and Wang, T. 2021. Using very-high-resolution satellite imagery and deep learning to detect and count African elephants in heterogeneous landscapes. *Remote Sensing in Ecology and Conservation.* 7 (3):369–381.

¹⁴² Barnes, R.F.W. 2008. How reliable are dung counts for estimating elephant numbers? *African Journal of Ecology.* Available at: <https://doi.org/10.1111/j.1365-2028.2001.00266.x>.

This criterion is also vague in its meaning. The USFWS should require the range state to submit its legal framework for the conservation and management of its elephant populations, including relevant statutes, regulations, policies, strategies, guidelines, and best management practices at the national, county, municipal, district, or village levels, depending on how elephant conservation and management is governed in the range state. If applicable, such information should be population specific. The USFWS should make clear in the final rule that a range state merely stating that it follows the rule of law when conserving and managing its African elephant populations does not meet this standard.

5. “The current viable habitat of these populations is secure and is not decreasing or degrading”

To satisfy this standard, the USFWS must request that the range state submit verifiable maps of the current viable habitat for elephants, including the designation of national parks, protected areas, wilderness areas, and other land classification types where wildlife conservation is the primary management objective, as well as any corridor habitat connecting conservation areas. In addition, range states should be asked to identify the proportion of currently available viable habitat under government (i.e., national, regional, municipal) and private jurisdiction. Any relevant statute or regulation governing the management of any viable elephant habitat (e.g., laws specific to individual national parks and protected areas) should also be required.

To confirm that such viable habitat is not decreasing in quantity or quality and is not being degraded by natural or anthropogenic factors, range states should be explicitly directed to: (1) identify any existing potential threats to viable elephant habitat, such as timber harvest, mining, road construction, authorized or unauthorized development, livestock grazing, climate change, wildfires (particularly those intentionally set by humans), land clearing and conversion, and poaching; and (2) articulate the specific actions taken to prevent, reduce, or mitigate such threats. Range states should be asked to provide copies of any laws, regulations, and management plans that govern land uses and extractive industries that may pose threats to the quantity and quality of viable elephant habitat to ensure that such legal standards are sufficient to manage the impact of threats to elephant habitat.

6. “Regulating authorities can ensure that the involved live animals have in fact been legally taken from the specified populations, and family units were kept intact to the maximum extent practicable”

To ensure that range states can provide “properly documented” and verifiable” information in response to this criterion, the USFWS must provide further clarity as to what type of information is required to satisfy this standard. Written assurance from a range state that all live animals removed from a population have been taken legally and that family units were kept intact should not be sufficient to meet this standard. To ensure legal take, the USFWS should request that range states provide any laws, regulations, or management plans that specify the number of elephants that can be removed from each

population without “harming”¹⁴³ the population and the permissible methods of take. Range states should also be asked to submit proof, perhaps via videographic and photographic evidence, of any capture operation or via a sworn declaration from an agency official, that the number of elephants taken, and the means of take, were legal. If any elephants died or were injured during a capture operation, that information should also be disclosed. For injured elephants, the range state should be asked to submit a description of the injury and the fate of the affected elephant (e.g., euthanasia, treatment of injury, recovery from injury, or permanent disability due to injury) so that such information can be considered by the USFWS in making its enhancement findings.

To ensure that elephant family units are kept intact to the maximum extent practicable, the USFWS should consider requesting genetic evidence to demonstrate the relatedness of any captured elephants. Considering the matriarchal structure of elephant family units and that elephant families (particularly female elephants) generally remain together for life, genetic data should be sufficient to ensure that elephants (particularly females) that range states claim constitute a family group are, indeed, related.

7. “Regulating authorities can ensure that no live African elephants to be imported are pregnant”

The USFWS should provide clarity as to how and when the determination of the pregnancy status of captive elephants should be made. Since wild-sourced elephants are generally captured and maintained in bomas or other captive facilities months before export, the USFWS must specify if the determination of pregnancy is to be made at the time of capture or at the time before export. If the former (and assuming that both female and male elephants have been captured) the range state should be required to submit information explaining how male and female elephants were separated during their time in captivity pre-export or if any fertility control tools were used to prevent breeding. In either case, the USFWS must specify what type of assay or assessment must be conducted to determine the pregnancy status of any captive female elephants. In the event that a pregnant elephant is identified pre-export, the USFWS should specify what the range state should do with that animal, including if the planned export must be delayed. Considering the USFWS’s desire to keep elephant family groups intact, if a member of a family group is determined to be pregnant, the USFWS should request that range states release the family group at the site of capture (preferred option), or that the export be delayed until the baby elephant is capable of enduring the rigors and stress of transport without compromising its survival, well-being, and condition. The USFWS should not permit the import of any family group of African elephants when or where a family unit member is determined to be pregnant because this would result in a fracturing of the family unit if the pregnant animal is not permitted to be shipped internationally.

¹⁴³ As made clear in this comment letter, we do not believe that any individual elephant or group of elephants, including an intact family unit, can be removed from a wild elephant population without causing harm to the individual(s) captured or to the elephants that remain from that herd in the wild. Considering the social dynamics in elephant populations, including intra- and inter-herd relationships, the removal of even a single animal will result in harm.

8. “Funds derived from the import are applied primarily to African elephant conservation, including reporting on how those funds have been or will be used for African elephant conservation activities”

In the proposed rule, the USFWS repeatedly solicits comments on developing a mechanism to ensure the funds paid for live elephants are used to achieve conservation benefits for African elephants.¹⁴⁴ If the USFWS intends to permit the import of live African elephants, then to maximize the likelihood that funds derived from the import are allocated primarily to African elephant conservation it must require range states to establish a statutory/regulatory framework mandating that the funds be used for elephant conservation. Depending on the range state, such a framework may need to be set up at a national, municipal, country, precinct, district, village, and/or concession level. The framework must provide, at a minimum, clear standards directing the allocation of funds to African elephant conservation projects, identifying those projects that qualify as benefiting elephant conservation, and installing a reporting requirement. A reporting requirement is essential so that range states have the requisite information to properly document and verify in their annual certification submissions to the USFWS how the funds have been used for conservation activities.

The USFWS must also establish its own internal mechanisms to seek information about the use of such funds for elephant conservation from range states in the event that such information is not submitted as part of a certification package or if range states do not seek certification from the USFWS every year for trade in live elephants.

9. “The elephants have been considered for in situ conservation programs, and consideration has been given to moving elephants to augment extant wild populations or reintroduce to extirpated ranges”

Considering the intent behind the revisions to CITES Res. Conf. 11.20 agreed to at CITES CoP18, we thank the USFWS for including this criterion. However, to ensure that range states provide properly documented and verifiable information to demonstrate that they considered using the elephants for in situ conservation programs, to augment extant wild populations, or to reintroduce to extirpated ranges, the USFWS must clearly articulate the type of information that will satisfy this criterion and what evidence it would dismiss as irrelevant if included in a range state certification package.

For example, the USFWS should request that the range state: (1) identify by name the government official and agency and/or park or area administrator contacted regarding an in situ conservation transfer, a wild elephant population augmentation project, and/or a reintroduction effort; (2) provide copies of correspondence with the government agency, person, or other entity administering the area; (3) provide documentation to confirm that such outreach to potential in situ conservation, augmentation, and reintroduction programs both domestically and within the natural range of African elephants has been undertaken; and (4) include in its certification package written evidence as to why none of the options pursued were feasible. The USFWS should make clear that any assertion that such projects cannot be undertaken because of financial limitations, lack of

¹⁴⁴ See 87 Fed. Reg. 68,975, 68,984, 68,987-89.

personnel, lack of experts, and/or the lack of equipment will not be accepted as evidence that such projects are not feasible. Absent a mandate for this type of information, range states could merely assert, without documentation, that it has exhausted the in-situ conservation, augmentation, and reintroduction options.

In terms of criterion for the certification process associated with the import of live elephants missing from the proposed rule, we recommend that the USFWS include a criterion pertaining to the method of take/capture and the husbandry standards for the care of any wild-sourced elephants pending their export. Specifically, the USFWS should require range states to describe the method of capture, indicating its preference for those methods that reduce the stress and suffering¹⁴⁵ experienced by the captured animal and his/her family members. The USFWS should reject any certification package if the proposed method of capture of wild elephants is not the least cruel method available. The agency should consult with experts on the capture of African elephants to determine which capture methods are typically used in Africa and, of those, which, are considered the least cruel.

Similarly, the USFWS should request that range states provide information about the husbandry standards employed for the handling, care, and training of any recently caught wild elephants as they await export. There can often be an extended amount of time between capture and export, so obtaining information on where and how the captured elephants are confined, what they are fed, what training/handling methodologies are used (e.g., free contact versus protected contacted, including whether the elephants are chained and/or subject to the use of bull hooks to physically and psychologically break them), and whether any enrichment activities are adopted would enable the USFWS to consider unnecessary suffering in its enhancement finding. From a welfare perspective, recognizing that the welfare of any wild elephant subject to capture and confinement is inherently compromised, the USFWS must use its discretion to extend its rules pertaining to the welfare of captive elephants to include the capture methods and care pending export. Concerns about the welfare of captive elephants should not be limited, as the current standards are, to assessing merely the conditions associated with the international transport of the animals and the treatment of the animals in U.S. facilities.

African elephant trophy import certification criteria:

1. “African elephant populations in the range country are stable or increasing, as well as sufficiently large to sustain sport hunting at the level authorized by the country”

¹⁴⁵ There is not a single method of capturing wild elephants that qualifies as humane. Whether targeting an individual elephant from the ground or air, including the use of helicopters, to administer a sedative and then physically separating the other family members, culling a family group to access juvenile elephants, or passively trapping a family unit using bait, the mere act of capturing one or more elephants is inhumane. *See, e.g.*, CITES SC69 Inf. 37 Challenges to CITES regulations of the international trade in live, wild-caught African elephants. Available at: <https://cites.org/sites/default/files/eng/com/sc/69/inf/E-SC69-Inf-36.pdf> (citing Bradshaw, G.A., Schore, A.N., Brown, J.L., and Moss, C.J. 2005. Elephant breakdown. *Nature*, 433:807 and Poole, J.H. and Moss, C.J. 2008. Elephant sociality and complexity: The scientific evidence. In Wemmer, C.M. and Christen, C.A. (Eds.) *Elephants and Ethics: Toward a Morality of Coexistence*. John Hopkins University Press, Baltimore, pp. 69-98).

In the preambulatory text of the final rule, the USFWS should make clear what type of evidence must be submitted to properly document and verify that elephant populations in a range country are “stable or increasing,” who is to make that determination (e.g., the range state, IUCN, independent scientists), how many years of data is necessary to determine population trend, and that such evidence must be submitted for each elephant population, including transboundary populations, in the range state or, at a minimum, for those elephant populations targeted for trophy hunting.

The final rule also should more clearly articulate what constitutes a “sufficiently large” population to sustain elephant removals and what factors must be considered in making such a sustainability determination. Such factors may include the impact on: (1) the social dynamics of remaining elephants in the population including any elephants from any specific family group targeted who are not captured; (2) matriarchal knowledge and leadership amongst remaining animals; (3) population structure and dynamics due to mortality rates associated with other natural or anthropogenic factors; and (4) the local ecosystem due to the loss of the ecological services provided by individual elephants.

2. “Regulating authorities have the capacity to obtain sound data on these populations using scientifically based methods consistent with peer-reviewed literature”

See response to criterion B/criterion 2 in the previous section of the comment letter.

3. “Regulating authorities recognize these populations as a valuable resource and have the legal and practical capacity to management them for their conservation”

See response to criterion C/criterion 3 in the previous section of the comment letter.

4. “Regulating governments follow the rule of law concerning African elephant conservation and management”

See response to criterion D/criterion 4 in the previous section of the comment letter.

5. “The current viable habitat of these populations is secure and is not decreasing or degrading”

See response to criterion E/criterion 5 in the previous section of the comment letter.

6. “Regulating authorities can ensure that the involved trophies have in fact been legally taken from the specified populations”

To ensure that range states can provide “properly documented” and verifiable” information in response to this criterion, the USFWS must provide further clarity as to what type of information is required to satisfy this standard. Written assurance from a range state that all elephants killed by trophy hunters have been taken legally should not be sufficient to meet this standard. To ensure legal take, the USFWS should request that range states provide any laws, regulations, or management plans that specify: (1) the number of elephants that can be removed from each population via trophy hunting (i.e.,

any national, municipal, district, or village quota depending on how elephant management is administered in a range state); (2) an assessment of the harm such removals cause to both the targeted family unit and populations (including harm to the social structure and dynamics of the affected group of elephants); and (3) the impact of such intentional lethal removals in relationship to other mortality caused by natural or anthropogenic factors.

7. “Funds derived from the involved sport hunting are applied primarily to African elephant conservation, including reporting on how those funds have been or will be utilized for African elephant conservation activities”

As noted previously, in the proposed rule, the USFWS repeatedly solicits comments on developing a mechanism to ensure the funds paid to kill elephants to import sport-hunted trophies are used to achieve conservation benefits for African elephants.¹⁴⁶ Considering analyses demonstrating, in general, that miniscule amounts of trophy hunting revenue are used to support conservation,¹⁴⁷ this is a critical issue that warrants substantive review by the USFWS.

If the USFWS intends to permit the import of sport hunted African elephant trophies, in order to maximize the likelihood that funds derived from the import are allocated primarily to African elephant conservation it must require that range states establish a statutory/regulatory framework mandating that the funds be used for elephant conservation. Depending on the range state, such a framework may need to be set up at a national, municipal, country, precinct, district, village, and/or concession level. The framework must provide, at a minimum, clear standards directing the allocation of import funds to African elephant conservation projects, identifying those projects that qualify as benefiting elephant conservation, and installing a reporting requirement. A reporting requirement is essential so that range states have the requisite information to properly document and verify in its annual certification submissions to the USFWS how the import funds have been used for conservation activities.

The USFWS must also establish its own internal mechanisms to seek information about the use of import funds for elephant conservation from range states if such information is not submitted as part of a certification package or if a range state does not seek certification from the USFWS every year for trade in live elephants.

V. Linking African Elephant Imports to CITES National Implementing Legislation Designated as Category One is Warranted but Should Be Expanded

Noting our opposition to the ongoing import of live African elephants, elephant trophies, or elephant parts and products, should the USFWS permit such imports, we strongly support tying issuance of any permits for such imports to the status of the exporting party’s national CITES implementing legislation. According to the proposed rule, this linkage would be limited to imports of “African elephants and their parts and products.”¹⁴⁸ According to the most up-to-date

¹⁴⁶ 87 Fed. Reg. 68975, 68984, 68987-89

¹⁴⁷ See Section III of these comments for more information.

¹⁴⁸ 87 Fed. Reg. 68,975, 68,995.

ranking of national legislation by CITES,¹⁴⁹ of the 38 African elephant range states,¹⁵⁰ only 13 have legislation in category one,¹⁵¹ 15 have legislation in category two,¹⁵² and ten have legislation in category three.¹⁵³ Of those 24 range states with national CITES legislation in categories two or three, 12 have exported African elephant products, including ivory products, to the United States between 2015 through 2020.¹⁵⁴ When ivory products, including tusks, are excluded, nine of the 24 range states with national legislation deemed deficient have exported elephant products to the United States during that time period including live elephants, specimens, jewelry (non-ivory), skin pieces, trophies, bone carvings, ears, feet, skulls, tails, bone pieces, teeth, and cloth.¹⁵⁵ According to importer-reported data, a total of 440 African elephant products were exported or re-exported to the United States by those nine range states over that six year period (the exporting countries report a total of 296 elephant products exported/re-exported along with 91.5 grams, 4.86, and 108 milliliters of elephant specimens, respectively).¹⁵⁶

If the USFWS adopts a final rule that links authorization for African elephant product imports to the designation of a party's national CITES legislation, 24 parties at present would be impacted by such a rule, but only 9 parties would be prevented from exporting approximately 440 elephant products (mostly specimens) to the United States. This assumes that none of the African elephant range states with national CITES legislation currently in category one lose that designation and that those countries that have exported elephant products to the United States from 2015 through 2020 continue to do so.

We commend the USFWS for its support of the CITES National Legislation Project and its efforts, including through capacity building, to aid CITES parties in achieving a category one

¹⁴⁹ See Table 1 in CITES CoP19 Doc. 28, General compliance and enforcement, National Laws for Implementation of the Convention. Available at: https://cites.org/sites/default/files/documents/E-CoP19-28_0.pdf

¹⁵⁰ As designated by the USFWS in the proposed rule. See “Definitions” at 87 Fed. Reg. 68,975, 68,994. This total number includes Mauritania and Sudan, both of which are range states of African elephants but are not included in the definitions text. In addition, while South Sudan is considered a range state for the African elephant, it is not a party to CITES. Therefore, any legislation it may have implementing the Convention is not included in CITES categories one, two, or three.

¹⁵¹ Angola, Cameroon, Democratic Republic of the Congo, Ethiopia, Equatorial Guinea, Guinea-Bissau, Malawi, Namibia, Nigeria, Senegal, South Africa, and Zimbabwe. 87 Fed. Reg. 68,975, 68,981. Notably, the USFWS does not include Mauritania as a range state for the African elephant in the proposed rule. 87 Fed. Reg. 68,975, 68,994. But the USFWS does include it as a range state on its species profile webpage. See <https://ecos.fws.gov/ecp/species/7724>. If included as an African elephant range state, Mauritania's national CITES legislation is in category one.

¹⁵² Benin, Botswana, Burkina Faso, Chad, Republic of the Congo, Eritrea, Gabon, Guinea, Kenya, Mali, Mozambique, Sudan, United Republic of Tanzania (other than Zanzibar), Togo, and Zambia. 87 Fed. Reg. 68,975, 68,981. Notably, while the USFWS includes Sudan as an African elephant range state with its CITES national legislation in category two in the preambulatory section of the proposal rule, in the definitions section of the proposal rule, Sudan is not listed as a range state for African elephants. See 87 Fed. Reg. 68,975, 68,994.

¹⁵³ Central African Republic, Côte d'Ivoire, Eswatini, Ghana, Liberia, Niger, Rwanda, Sierra Leone, Somalia, and Uganda. 87 Fed. Reg. 68,975, 68,981.

¹⁵⁴ Based on an analysis of African elephant trade data from 2015 through 2020 using the CITES Trade Databased (accessed on 22 February 2023).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

ranking of their legislation. Nevertheless, if the goal of the USFWS is to incentivize or compel parties with deficient national legislation to fully comply with the provisions of the Convention, the USFWS must not limit the scope of its proposal to the trade in African elephant products. As this proposed restriction is a component of a stricter domestic measure to incentivize party compliance with the treaty, the USFWS has the discretion to expand the proposal to cover, for example, all trade in CITES listed species or trade in all wildlife. In the case of the African elephant, expanding the proposal as suggested above would directly benefit the conservation of the species by providing even more reason for parties to amend and strengthen their CITES national legislation to achieve a category one designation.

If the proposed rule was expanded to prohibit trade in all CITES listed species for those 24 African elephant range states currently with national legislation in categories two or three and enacted in 2014, that would have prevented the import of nearly 7,482,000 wildlife products (animals and plants) along with thousands of other products traded in units of weight or measure from 2015 through 2020.¹⁵⁷ If broadened further to include all wildlife trade (for CITES listed and non-listed wildlife) and enacted in 2019, it would have prohibited the import of 253,455,854 wildlife products based solely on 2020 import data as recorded in the Law Enforcement Management Information System database. Either option would provide a far more compelling incentive for these 24 range states, including many that have been signatories to CITES for decades, to revise and strengthen their national CITES legislation to achieve category one designation.

VI. Conclusion

We are steadfastly opposed to the USFWS continuing to authorize the import of live African elephants, sport-hunted trophies, and other elephant parts and products into the United States. There is no evidence of any meaningful or credible conservation benefit associated with such imports and, consequently, the USFWS should ban them. If, however, the USFWS elects to permit such imports, then we strongly support the proposed amendments to the 4(d) rule. However, the criteria proposed by the USFWS for the annual certification processes for range states desiring to export live African elephants or sport-hunted African elephant trophies to the United States should be strengthened, expanded, and clarified as articulated in this comment letter. These revisions are essential to provide additional clarity to range states as to the type of information that is properly documented and verifiable that will provide meaningful evidence to improve the USFWS's enhancement findings. We also call on the USFWS to be fully transparent with this information and to make it available to the public via its African elephant webpage.

Thank you for providing an opportunity to submit comments on the proposed revisions to the African elephant 4(d) rule and for your consideration of these comments. If you have any questions or there is any additional information we can provide, please do not hesitate to contact us.

¹⁵⁷ Based on an analysis of all CITES trade data for the 24 African elephant range states from 2015 through 2020 using the CITES Trade Databased (accessed on 22 February 2023).

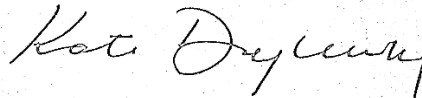
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