

June 3, 2022

Senator Marty Klyne
The Senate of Canada
Ottawa, ON
Canada
K1A 0A4

Re: Bill S-241 – The Jane Goodall Act

Dear Senator Klyne,

We, the undersigned, are distinguished international elephant specialists, representing a wide range of disciplines, including natural science, conservation, elephant behaviour and psychology, veterinary medicine, animal welfare, academia, and animal care and management.

We are pleased to support Bill S-241 – the *Jane Goodall Act* – which would phase-out the display of elephants for entertainment and the domestic trade in elephant ivory and trophies. We applaud you for introducing this important bill to improve protection for elephants, among other wild animal species. We stand ready to contribute our specialist expertise on elephants to assist the Senate's review and consideration, and to discuss solutions for the management of the remaining elephants.

As specialists on elephant well-being, we can attest that public display facilities keeping captive elephants are no longer supported or justified by the growing body of science on their socio-biological needs. In these situations, elephants endure conditions that are inadequate to meet their needs, as they lack essential components of wild ecosystems and inhibit expression of natural behaviours.

Scientific and experiential evidence indicates that the use of elephants as performers, riding objects, and exhibit specimens can be physically and psychologically detrimental to these highly intelligent, sensitive, and self-aware animals. Confinement, restraint, travel, harmful training practices, exhibition, isolation, noise, performing, and exposure to the public while living in unnatural environments can adversely affect elephants' health and welfare.

Elephants are extremely intelligent animals, with multifaceted physical, social and spatial needs.

Elephants are large-brained mammals who display complex cognitive capabilities¹, great intelligence², sentience³ and empathy, with the ability to understand the intentions and emotions of others^{4,5}. Elephants are also self-aware.⁶ Along with dolphins, great apes and humans, they can recognise themselves in a mirror, implying a sense of self.⁷ Elephants form and use tools⁸, and solve problems by insight. They have a sense of death and mourn dead family members.⁹ Elephants can recognise at least 100 other elephants by their voices¹⁰, and they can determine the ethnicity, gender and age of humans from acoustic cues.¹¹

Elephants live in unusually large social networks, with a highly organized structure involving strong family bonds that can last a lifetime.^{12,13} Relationships among females radiate out from the mother-offspring bond through family, bond group, clan, and sub-population, and among independent

adult males through male groups of kin and non-kin¹⁴. They form alliances and coalitions with other elephants and can work together to solve problems.¹⁵ Elephants have a highly developed communication system using all their senses in a wide range of tactile, olfactory and visual signals, seismic and acoustic communication.¹⁶

Elephants are adapted to living in a variety of landscapes and walking long distances. Home range sizes have been shown to extend to 10,000 square kilometres or more for African elephants and to 400 square kilometres or more for Asian elephants.^{17,18} They have exceptional long-term memory and mapping skills to locate food and water over vast distances and time periods¹⁹, with matriarchs referred to as “repositories of social knowledge”.²⁰ Elephants’ daily activities involve intellectual and cognitive challenges centred on their use of space: locating and manipulating a wide variety of food, remembering locations of water and seasonal food items, searching for mates, and avoiding potential danger.

The ability – and need – to express these many highly regarded qualities conflict with the inadequate physical and social conditions found in captive environments, resulting in compromised welfare with long lasting detrimental psychological and physical effects.^{21,22}

Captive environments do not meet elephants’ complex physical needs.

The restrictions that captivity imposes on an animal’s behaviours are increasingly recognised as being deleterious to cognitive development, normal social development, and, later in life, on reproduction and health.²³ Captive living conditions differ drastically from those for which elephants are adapted. Over millions of years, elephants have evolved to forage in expansive home ranges, moving with their family groups or bull associations. Elephants’ musculoskeletal system and feet are adaptations for walking long distances.²⁴ Walking and other exercise has essential health benefits vital for humans and other animals, not only for muscle development, welfare and physical health²⁵ but for development of the brain.²⁶ Voluntary exercise can increase levels of brain derived neurotrophic factor (BDNF) and other growth factors, stimulate neurogenesis, increase resistance to brain insult and improve learning and mental performance.²⁷ Lack of movement and poor substrates are also associated with serious health problems (see below).

In captive environments, outdoor spaces for elephants are orders of magnitude smaller in size than elephants’ ranges in the wild, with limited variety of natural vegetation and substrates on which to walk. Indoor spaces are even smaller than those outdoors and may contain hard substrates such as concrete²⁸. Due to Canada’s climate and cold weather, elephants may spend most of their time indoors and possibly chained during that time. The tethering or chaining of elephants is meant to immobilize and control the animal. Chaining can be temporary or continuous. Elephants in traveling shows may spend up to 23 continuous hours on chains²⁹, including during transport and at performance venues.

In sum, captive environments simply cannot approximate the spatial and environmental conditions necessary for the health and welfare of elephants.

Elephant health problems in captive conditions.

Serious health problems and decreased life span in captive-held elephants are well documented.^{30,31} Captive elephants may suffer arthritis, osteoarthritis, hernia (*Hernia perinealis*), swelling of the knee joints (*Bursitis praepatellaris*), skin calluses (*Tyloma olecrani*), and abscesses.³²

Blackleg (bacterial inflammation with necrosis) and foot problems, such as pathological lesions in the pads and nails, split nails, abscesses, torsion, ulcerations, and overgrown cuticles, are common in captive-held elephants because of inactivity and lack of access to natural substrate to keep foot pads and nails supple and naturally trimmed.³³ Musculoskeletal impairments are one of the major health issues in captive-held elephants, including degenerative joint disease, low bone density³⁴, and ensuing lameness³⁵. Although the causes of these problems can be varied, they all indicate poor husbandry systems.³⁶

Captive elephants are also subject to infectious diseases. A highly fatal haemorrhagic disease, the Endotheliotropic Elephant Herpesvirus (EEHV) occurs in both Asian and African elephants in captive situations, with some cases found among Asian elephants in their natural range countries.³⁷ The disease, while largely asymptomatic in the wild, particularly devastates neonatal and weaning-age elephants in captivity.³⁸ Tuberculosis (TB) is a pervasive problem in captive elephants. The human variant is transmitted by humans to elephants, and an elephant can infect other humans and elephants on close contact, indicating two-way transmission.^{39,40} Most occurrences of human TB in zoos have been discovered in Asian elephants, although there is some evidence that it occurs in African elephants as well.^{41,42}

Conclusion

Elephants are not suited to any form of captivity, as no captive facility can fulfil the basic biological, social, spatial, cognitive and intrinsic requirements of elephants. The keeping of elephants in captivity in Canada should be brought to an end, with every effort made to ensure those elephants that remain in captivity are provided with the best possible conditions to meet their welfare requirements and ensure their well-being for the remainder of their lives.

Signed

Dr. Lucy Bates, Lecturer, Centre for Social Learning and Cognitive Evolution, University of St Andrews; U.K.

Scott Blais, CEO and Co-founder, Global Sanctuary for Elephants

Carol Buckley, CEO, Elephant Aid International; USA

Dr Richard Byrne FRS Edinburgh, Emeritus Professor, Centre for Social Learning and Cognitive Evolution, University of St Andrews; UK

Dr. Audrey Delsink, PhD, Professional Natural Scientist (Ecology) and elephant specialist; South Africa.

Catherine Doyle, M.S., Captive elephant specialist and Director of Science, Research and Advocacy, Performing Animal Welfare Society (PAWS); USA

Dr Victoria Fishlock, Resident Scientist, Amboseli Trust for Elephants; Kenya

Dr. Deborah Gibson, Biologist, Conservationist, member of IUCN-SSC African Elephant Specialist Group; Namibia

Dr. Michele Henley, CEO, Co-Founder and Principal Researcher, Elephants Alive

Dr. Mark Jones MRCVS Veterinarian, Head of Policy, Born Free Foundation; U.K.

Dr. Marion Garaï, Elephant behaviour specialist and Trustee Elephant Reintegration Trust; South Africa

Dr. Phyllis Lee, Emeritus Professor, University of Stirling and Director of Science, Amboseli Trust for Elephants; UK, Kenya

Dr. W Keith Lindsay. Elephant conservation biologist, Amboseli Trust for Elephants; Canada, U.K., Kenya.

Brett Mitchell, Chairman Elephant Reintegration Trust; South Africa

Professor Karen McComb, Mammal Communication and Cognition Research Group, School of Psychology, University of Sussex; UK

Dr. Cynthia Moss, Founder and Director of the Amboseli Trust for Elephants; Kenya, USA

Dr. Joyce H. Poole, Co-Founder and Scientific Director, ElephantVoices; Member of the Board and Founding Member, Global Sanctuary for Elephants; USA, Norway, Kenya, Mozambique

Dr. Ian Redmond, Head of Conservation, Ecoflox; UK.

Ingo Schmidinger, Director of International Operations, Global Sanctuary for Elephants

Dr. Jan Schmidt-Burbach, PhD, Wildlife veterinarian and elephant specialist, World Animal Protection; Germany

Peter Stroud, independent zoological consultant, former zoo Curator and Director; Australia

Will Travers OBE, Elephant expert and Chair of Species Survival Network Elephant Working Group, Born Free Foundation; U.K.

Antoinette van de Water, PhD candidate, Director Bring the Elephant Home.; Thailand, South Africa

Dr. Hilde Vanleeuwe, WCS/ DCF grant coordinator and research associate, Member of IUCN-SSC African Elephant Specialist Group and the in-situ/ ex-situ taskforce; USA, Kenya

Reference Endnotes

- ¹ Byrne R.W., Bates L.A. & Moss C.J. 2009. Elephant cognition in primate perspective. *Comparative Cognition & Behaviour Reviews*, 4:65-70. <http://dx.doi.org/10.3819/ccbr.2009.40009>
- ² Poole J. & Moss C. 2008. Elephant sociality and complexity In: Wemmer C. & Christen C.A. (Eds) *Elephants and Ethics*. Johns Hopkins University Press, Baltimore. pp.69– 100.
- ³ Blattner C.E. 2019. The recognition of animal sentience by the law. *Journal of Animal Ethics*, 9(2):121-136 <https://www.jstor.org/stable/10.5406/janimaethics.9.2.0121>
- ⁴ Bates L.A., Lee P.C., Njiraini N., Poole J. H., Sayialel K., Sayialel S., Moss C. J. & Byrne R.W. 2008. Do elephants show empathy? *Journal of consciousness Studies*, 15(10-11):204-225
- ⁵ Bates et al 2008, *op.cit.*
- ⁶ Plotnik J.M., de Waal F. & Reiss D. Self-recognition in an Asian elephant. *PNAS*, 103 (45) 17053-17057. <https://doi.org/10.1073/pnas.0608062103>
- ⁷ Plotnik J.M., de Waal F.B.M., Moore III D. & Reiss D. 2010. Self-recognition in the Asian elephant and future directions for cognitive research with elephants in zoological settings. *Zoo Biology*, 29:179-191.
- ⁸ Hart B.L., Hart L.A., McCoy M. & Sarath C.R. 2001. Cognitive behaviour in Asian elephants: use and modification of branches for fly switching. *Animal Behaviour*, 62:839-847.
- ⁹ Pokharel S.S., Sharma, N. & Sukumar R. (2022) Viewing the rare through public lenses: insights into dead calf carrying and other thanatological responses in Asian elephants using YouTube videos. *Royal Society Open Science*, 9: 211740 <https://doi.org/10.1098/rsos.211740>
- ¹⁰ McComb K., Moss C., Sayialel S. & Baker L. 2000. Unusually extensive networks of vocal recognition in African elephants. *Animal Behaviour*, 59:1103-1109.
- ¹¹ McComb K., Shannon G., Sayialel N. Moss C. 2014. Elephant can determine ethnicity, gender, and age from acoustic cues in human voices. *PNAS*, 111 (14) 5433-5438. www.pnas.org/cgi/doi/10.1073/pnas.1321543111
- ¹² Sukumar R. 2003. *The Living Elephants*. Oxford University Press.
- ¹³ Wittemeyr G., Douglas –Hamilton I. & Getz W. M. 2005. The sociology of elephants: analyses of the processes creating multitiered social structures. *Animal Behaviour*, 69:1357-1371.
- ¹⁴ Moss C.J. and Poole J.H. 1983. Relationships and social structure of African elephants. In: R.A. Hinde (Ed.) *Primate Social Relationships: An Integrated Approach*. Blackwell Scientific, Oxford.

-
- ¹⁵ Plotnik J.M., Lair R., Suphachoksakun W. & de Waal F.M. 2011. Elephants know when they need a helping trunk in a cooperative task. *PNAS*, 108 (12) 5116-5121. <https://doi.org/10.1073/pnas.1101765108>
- ¹⁶ <https://www.elephantvoices.org/elephant-communication/why-how-and-what-elephants-communicate.html>
Accessed on 2 March 2021.
- ¹⁷ Ngene S., Okello M.M., Mukeka J. Muya S., Njumbi S. & Isiche J. 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*, 9(1):9-26.
- ¹⁸ Williams C. & Qureshi Q. 2008. Ranging and habitat selection by Asian elephants (*Elephas maximus*) in Rajaji National Park, North-West India. *Journal of the Bombay History Society*, 105(1):145-155.
- ¹⁹ Polansky L., Kilian W. & Wittemyer G. 2015. Elucidating the significance of spatial memory on movement decisions by African savannah elephants using state-space models. *Proceedings of the Royal Society B*, 282: 20143042.
<http://dx.doi.org/10.1098/rspb.2014.3042>
- ²⁰ McComb, K, CJ Moss, SM Durant, L Baker, and S Sayialel. Matriarchs as repositories of social knowledge in African elephants. *Science*, 292 (2003): 491-94.
- ²¹ Jacobs, B. 2020. The neural cruelty of captivity: Keeping large mammals in zoos and aquariums damages their brains. *The Conversation*, September 24, 2020. <https://theconversation.com/the-neural-cruelty-of-captivity-keeping-large-mammals-in-zoos-and-aquariums-damages-their-brains-142240>
- ²² Clubb R. & Mason G. 2002. *A Review of the welfare of Zoo Elephants in Europe*. RSPCA Report, University of Oxford.
- ²³ Knight J. 2001. Animal data jeopardised by life behind bars. *Nature*, 412:669.
- ²⁴ Poole J. & Granli P. 2009. Mind and movement: Meeting the interests of elephants. In: Forthman D. L., Kane L. F. & Waldau P. F. (Eds.) *An Elephant in the Room: The Science and Well-being of Elephants in Captivity*. Cummings School of Veterinary Medicine's Center for Animals and Public Policy, Tufts University, pp.2-21.
- ²⁵ Holdgate M.R., Meehan C.L., Hogan J.N., Miller L.J., Soltos 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. <https://doi.org/10.1371/journal.pone.0150331>
- ²⁶ Cotman C. W. & Berchtold N.C. 2002. Exercise: a behavioural intervention to enhance brain health and plasticity. *Trends in Neurosciences*, 25(6):295-301.
- ²⁷ Kurt F & Garai 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.
- ²⁸ Poole & Granli. 2009. *ibid*.
- ²⁹ Iossa G., Soulsbury C.D. & Harris S. 2009. Are wild animals suited to a travelling circus life? *Animal Welfare*, 18: 129-140.
- ³⁰ Clubb R., Rowcliffe M., Lee P., Mar K.U., Moss C. & Mason G.J. 2008. Compromised survivorship in zoo elephants. *Science*, 322:1649.
- ³¹ Clubb & Mason. 2002. *ibid*.
- ³² Kuntze A. 1989: Arbeitsbedingte Krankheitsbilder: Hernia perinealis, Bursitis praepatellaris und Tyloma olecrani bei Zirkuselefantinnen. *Verh. Ber. Erkr. Zootiere*, 31:185.
- ³³ Wendler P. 2019. *Foot health of Asian elephants (Elephas maximus) in European zoos*. Dissertation Vetsuisse faculty, University of Zürich.
- ³⁴ 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. <http://dx.doi.org/10.17582/journal.aavs/2020/8.10.1009.1012>
- ³⁵ 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*, 29:221-236.
- ³⁶ 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. <https://doi.org/10.1002/zoo.21528>.

-
- ³⁷ 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. <https://doi.org/10.7589/2012-07-193>
- ³⁸ 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.
- ³⁹ 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.
- ⁴⁰ Mikota S. and Maslow J.N. 2011. Tuberculosis at the human-animals interface: An emerging disease of elephants. *Tuberculosis*, 91:208-211.
- ⁴¹ Mikota S., Larsen R.S., & Montali R.J. 2000. Tuberculosis in elephants in North America . *Zoo Biology*, 19:393-404.
- ⁴² Mikota and Maslow. 2011. *Ibid*.