

RESPONSES TO THE LOS ANGELES ZOO'S ANSWERS TO QUESTIONS POSED BY THE ARTS, ENTERTAINMENT, PARKS AND RIVER COMMITTEE

This document contains the questions posed to the zoo by the Committee, the zoo's answers to them, and responses to those answers. The responses provide pertinent facts, additional information, and valuable insights into the topics posed by the Committee. Citations are provided for supporting information where applicable. References are included at the end of the document.

1. What does accreditation mean to the Zoo in relation to the possibility of Billy being sent to Sanctuary, but retaining the other elephants?

Zoo Ans: *The Los Angeles Zoo has agreed to fully participate in the Asian Elephant Species Survival Plan (SSP). That means that we will participate in the development of sustainability plans within Association of Zoos and Aquarium (AZA) facilities and ultimately follow the final plan. eclarng our intent to participate and then not following through could result in ethics charges, possible loss of accreditation and removal from the Asian Elephant SSP.*

Any of these actions could cause the owners of our other elephants to remove them from the LA Zoo.

Response to zoo answer:

The LA Zoo suggests that zoos involved in the Asian Elephant Species Survival Plan (SSP) may suffer serious consequences for lack of participation, citing three extreme examples. There is no evidence for this claim. Not only does the zoo fail to provide details to support its assertions, it omits the following essential information:

I. The Asian Elephant SSP program is considered a Yellow SSP Program for which participation is voluntary.

According to the SSP Program Handbook, participation in the Asian Elephant SSP is voluntary:

Although cooperation among AZA member institutions is strongly encouraged for the long-term benefit of the zoo population, participation in Yellow SSP Programs is voluntary. (p. 28, Species Survival Plan Program Handbook, 2011)

The AZA Policy for Full Participation in the SSP Program is required of all AZA member institutions caring for species designated as Green SSP Programs (Appendix A). Full participation is strongly encouraged for all AZA member institutions caring for species designated as Yellow and Red SSP Programs. (p. 29, Species Survival Plan Program Handbook, 2011)

The Asian Elephant SSP's 2017 Population Analysis & Breeding and Transfer Plan includes the following disclaimer on each page, which reiterates that participation is voluntary, recommendations are non-binding, and the SSP does not control a zoo's decision to place animals elsewhere:

This Program is currently a Yellow SSP and recommendations proposed are non-binding – Participation is voluntary. Dispositions to non-AZA institutions should comply with each institution's acquisition/disposition policy. (italics original)

II. The LA Zoo has not followed through on a recommendation made by the SSP, apparently without consequences.

Although the SSP has recommended that Billy be trained for semen collection for artificial insemination purposes (Population Analysis and Breeding and Transfer Plan, 2017), the LA Zoo has stated that efforts to collect semen from Billy ended 3.5 years ago. (See zoo answer to question #6.)

III. The Species Survival Plan Handbook defines no penalties for withdrawal from a SSP.

Again, the Asian Elephant SSP's Breeding and Transfer Plan explicitly states that its recommendations are non-binding and participation in the SSP is voluntary. Moving Billy to a sanctuary does not foreclose continued participation in the Asian Elephant SSP. However, a temporary withdrawal from the Asian Elephant SSP may provide a simple way for the LA Zoo to avoid any perceived problems, should the City decide to move Billy to a sanctuary. Doing so would not affect other SSPs in which the zoo is currently involved. The zoo could then resume participation in the Asian Elephant SSP as a non-breeding facility, as it will continue to hold Shaunzi, Jewel and Tina, who are all post-reproductive. The Handbook does not identify any consequences or penalties for withdrawal from a voluntary SSP program.

2. Sanctuary:

a. What is the impact on accreditation if we move Billy to a sanctuary? Under what scenarios has the LA Zoo moved animals to a sanctuary in the past?

Zoo Ans: AZA Accreditation Standards 6.3 and 6.4 read as follow: 6.3. The governing authority has the responsibility for policy matters and oversight of the institution. The CEO/Director must be responsible for the day-to-day management of the institution, including animal acquisition, transfer, welfare, euthanasia, and reintroduction, paid and unpaid staff, and programs.

6.4. While the governing authority may have input, the decisions regarding the institution's animals must be made by the professionals who are specifically trained to handle the institution's animals, staff (paid and unpaid), and programs.

Violating these standards can cause an AZA Institutional Member to lose their accreditation. In 2007 the LA Zoo sent African elephant, Ruby to the PAWS Sanctuary. The Zoo was focusing on Asian elephants only; no other AZA facility was willing to take Ruby so after she was declared surplus to the SSP population the sanctuary was her only option. Ruby died at PAWS in 2011.

Response to zoo answer:

It must be very strongly stated that the AZA is a trade organization representing the zoo industry. Its policies are not legally binding, and the City is not obligated to abide by them. The City, along with the people of Los Angeles, owns Billy and other animals at the zoo and therefore has full jurisdiction over them. As the governing authority over the zoo, the City “has the responsibility for policy matters and oversight of the institution.” It is well within the City's oversight authority to determine that the zoo cannot provide optimal conditions for Billy and that he should be placed at a sanctuary.

b. What would the process of moving Billy to a sanctuary look like? Give examples from other Zoos that have moved elephants to a sanctuary.

***Zoo Ans:** Moving an elephant is a complicated task and requires months of training to prepare the elephant. Due to Billy's size and strength, he would have to be moved in a specialized crate. He would be trained to enter the crate and have tethers placed around his ankles. Billy has a large set of tusks which may have to be trimmed to safely transport him. Transporting an elephant can cost \$40-60,000.*

Over the years several zoos have sent elephants to a sanctuary when they decided to discontinue their elephant program for various reasons (financial, programmatic, animal welfare, etc.) and no other home could be found for their elephant. This has not been an issue when it is the zoo deciding the destination for the elephant however; in 2012 the Toronto Zoo was forced to send their elephants to a sanctuary without the concurrence of the Zoo's CEO. As a result the Toronto Zoo lost their accreditation. In another case a zoo sent elephants to a sanctuary without informing one of the elephant's owner which resulted in the CEO losing their AZA membership after being charged with an ethics violation.

Response to zoo answer:

The Toronto Zoo only temporarily lost accreditation after the Toronto City Council voted to send its three elephants to a GFAS (Global Federation of Animal Sanctuaries) accredited sanctuary. There is more to the story than the LA Zoo explains. The decision came after the zoo had decided to end its elephant program and relocate the elephants. After a considerable amount of time, the zoo had not identified an AZA-accredited zoo that met its criteria for the elephants and the City took action to determine a suitable location. This was another situation where the City owned the animals and clearly had jurisdiction over their disposition.

It should be noted that at the time the Toronto Zoo lost its accreditation, the zoo's director expected there to be little impact. The *Globe and Mail* reported:

A staff report to the zoo board last year warned that, without proper certification, the Toronto Zoo would be unable to maintain its animal collection. ***But zoo chief executive officer John Tracogna said on Wednesday it would be “business as usual” for most of the zoo's activities.***

“There will be very minimal impact. Nothing that the public would notice,” he said. “We are confident that we are going to address the governance issue in the very short term and be in a position to reapply for accreditation at the next point in time, which is March 31, 2013.” (emphasis added) (Church 2012)

Tracogna also said he didn’t expect other AZA zoos to break their loan agreements with the Toronto Zoo over the issue (Vincent 2012). To the best of our knowledge, no SSP animals were retrieved from the zoo. In fact, during the time the Toronto Zoo was unaccredited, the LA Zoo requested a permit to send a critically endangered species to the zoo (see response to zoo’s answer to question #4).

Although the Toronto Zoo’s accreditation was revoked in 2012, according to an AZA spokesperson the zoo did not apply for accreditation again until 2016. (Pagliaro 2016)

Regarding the LA Zoo’s reference to a CEO who “lost” his AZA membership, Manuel Mollinedo of the San Francisco Zoo (and former director of the LA Zoo) faced an ethics charge by the AZA after sending the zoo’s two elephants to a GFAS-accredited sanctuary. (The San Francisco Board of Supervisors had passed a resolution urging the zoo to send the elephants to a sanctuary, following the deaths of two elephants at the zoo.) His “punishment” was suspension from all AZA functions for just three months (Yollin, 2006).

Several AZA-accredited zoos have sent elephants to sanctuaries without incident, including the Philadelphia Zoo; Detroit Zoo (the AZA threatened to discipline Detroit for choosing not to send its elephants to an AZA facility, but ultimately determined that the elephants were "nonessential" to the SSP); Chehaw Wild Animal Park; Vancouver Zoo; El Paso Zoo; Mesker Park Zoo; Henry Vilas Zoo; and Nashville Zoo. The Los Angeles Zoo sent African elephant Ruby to the PAWS Sanctuary in 2007.

3. What permissions, if any, would need to be obtained from the AZA?

Zoo Ans: *The LA Zoo would have to tell the Asian elephant SSP that we would no longer fully participate in the SSP programs which would leave us out of the decision making process on receiving any additional elephants.*

Response to zoo answer:

The zoo fails to address the question directly. The city does not need to get permission from the AZA to place its own elephant at a sanctuary. As mentioned above, the Asian Elephant SSP's Breeding and Transfer Plan explicitly states that its recommendations are non-binding and participation in the SSP is voluntary. Moving Billy to a sanctuary does not foreclose continued participation in the SSP. The zoo would still be able to acquire elephants from other zoos such as the three post-reproductive females that it currently holds.

4. Financial impact of losing accreditation?

Zoo ans: *It is hard to quantify the financial impacts that would be chronic over time due to the programmatic challenges and competition with other AZA Accredited zoos and aquariums in Southern California. Loss of AZA Accreditation would have many programmatic impacts. LA Zoo staff would no longer be eligible to chair AZA Committees, be species Studbook Keepers, SSP Coordinators or serve on the AZA Board or Ethics Committee. That will directly affect 12-15 City employees as well as retention and staff recruitment. Many AZA Institutional Members will not engage in animal transactions with non AZA facilities. Some may require that we return animals to them that live here on loan. There are State and Federal regulations that are stream lined for AZA Members. Zoo and Zoo Staff would have to pay full nonmember price for AZA conferences and professional development programs. The LA Zoo would no longer be among the elite, professional zoos and aquariums distinguished from "roadside zoos" and for profit animal menageries. Bond measures, such as the statewide bond measure (Proposition 12 State Park Bond Act 2000) which under the Zoo and Aquarium Facilities Grant Program provided \$257,000 for AZA Accredited facilities. Accreditation also contributes to enhanced development opportunities.*

Response to zoo answer:

There are no grounds to believe that the zoo would lose accreditation if it acts in Billy's best interest by placing him at a sanctuary. Accreditation does come with benefits, and we agree that the zoo should continue to meet the AZA's standards and maintain its accreditation. Placing Billy at a facility specially designed to give him the best possible life should not jeopardize that accreditation. The zoo's response paints a doomsday picture that does not necessarily reflect reality or the experience of zoos that have sent elephants to accredited sanctuaries.

Should the AZA nevertheless choose to make an example of the LA Zoo, as it briefly did with the Toronto Zoo, most of the zoo's activities would be unaffected. The Toronto Zoo, for example, continued to engage in animal transactions with other zoos during the time its accreditation was revoked, including the LA Zoo. **In 2013, the LA Zoo requested a permit to export one captive-born, male brush-tailed bettong, a critically endangered species, to the Toronto Zoo – during the time when the Toronto Zoo was temporarily unaccredited** (Federal Register Notice, July 25, 2013). Temporary loss of accreditation apparently did not change much, if anything, for the Toronto Zoo.

As a trade organization, the AZA relies on the high membership fees paid by the zoos it accredits. There currently is competition with the AZA, including another zoo accrediting organization and a certifying group. Given all this, should the City decide to send Billy to a GFAS-accredited sanctuary and accreditation were threatened because of it, revocation would likely be temporary. Or, the LA Zoo could take the action suggested in the response to the zoo's answer to question #1 (see part III of the response).

5. What is the annual cost of supporting an elephant at the LA Zoo?

Zoo Ans: (Chart with costs)

No response to zoo answer.

6. What is the status of the captive breeding experience with Billy?

Zoo Ans: Since there are no breeding age females at the LA Zoo there are not attempts to naturally breed Billy. Attempts to collect semen from him for potential artificial insemination elsewhere were stopped over 3.5 years ago.

No response to zoo answer.

7. How are Billy's feet inspected and cared for to prevent Osteomyelitis and what risk, if any, is he at of currently having or obtaining it?

Zoo Ans: The elephants at the Los Angeles Zoo undergo frequent and routine foot care which includes daily visual inspection of their nails and foot pads along with weekly pedicures to maintain, clean and trim their nails and foot pads. The keepers have trained Billy to present all four feet for routine inspections, which gives us a visualization of all aspects of each foot. He is also trained to allow x-rays for the veterinarians to examine.

The daily elephant activities and habitats at the Los Angeles Zoo further support the elephants' foot care. The elephants are provided with 24 hour access to the outside habitats which are roto-tilled and cleaned allowing for access to a variety of topography, substrates and enrichment items. This environment promotes natural grooming activities, while time spent in their pools supports foot hygiene and exercise.

Response to zoo answer:

The feet of captive elephants must be monitored and cared for because most captive enclosures do not give elephants enough space for walking or the variety of natural substrates that naturally wear down the feet and pads of elephants in the wild (Roocroft and Oosterhuis, 2001). The soil in smaller enclosures quickly becomes hard and compacted from an elephant's enormous weight, which is why the LA Zoo was required to roto-till its elephant exhibit. Giving elephants access to more space results in less compaction and more opportunities for natural, healthy wear on the feet.

Billy has a history of nail cracks, including very large ones that reach up to the cuticle. These large cracks continue to manifest despite the zoo's best efforts and a renovated elephant exhibit. Roocroft and Oosterhuis state: "If a nail crack is not cared for properly, it can result in a chronic problem, especially if it extends upward toward the cuticle and damages the nail's germinal tissue. Without treatment it can lead to an abscess and more serious consequences" (2001).

Roocroft and Oosterhuis explain the source of this problem as follows:

Cracks are normal in the pads of an elephant's foot but not in their nails ... Nail cracks are usually the result of a repetitive movement that puts abnormal pressure on the nail... An example is the stereotypical 'rocking' elephant, where an elephant stands in one place on a hard surface and rocks back and forth. This puts abnormal pressure on the lateral toes of the front feet, eventually leading to nail cracks. (2001)

Billy obviously displays abnormal repetitive behaviors (stereotypies) and has done so for decades. Together with living in a restricted space, these behaviors are very likely contributing to his nail cracks. (Also see response to zoo answer to question #24.)

8. What modifications have been made to the LA Zoo's Elephants of Asia exhibit to increase levels of care and comfort for the Zoo's elephants?

***Zoo Ans:** Elephants of Asia is a new habitat at the Zoo that opened in 2010. It is one of the largest most complex zoo elephant facilities in North America. Of the 32 elephant facilities in the AZA only 8-10 are comparable in size to the LA Zoo's. The 3.6 acre area for the elephants is, by design, divided into four yards to provide optimum flexibility for the elephants and safety of the staff. Each yard is covered with two feet of sand for comfort, has hills and valleys and several enrichment opportunities like food puzzles and timed hay feeders to stimulate the elephants to move around the spaces. There are several vertical scratching posts, and large boulders for self-grooming. The elephant barn is large and roomy with in-floor heating, automatic waterer and scratching brushes. While our elephants typically have access outside throughout the day and night, two stalls have rubber floors in the event an elephant had to stay in the barn for an extended period.*

Response to zoo answer:

Relocating Billy to a GFAS-accredited sanctuary would allow the zoo to give the female elephants, who are considered older and post-reproductive, full access to the elephant exhibit. This would greatly enhance their ability to move throughout the space, interact with keeper-provided enrichment, and engage in healthy exercise.

Raman Sukumar (2006), recognized as the world's leading authority on Asian elephants, estimates that wild Indian elephants have home range sizes of 250-1000 km² (97-386 square miles). Elephants on the island of Sri Lanka are more restricted, with home range sizes of 50-150 km² (19-58 square miles). With just a few acres to work with, the LA Zoo cannot begin to imitate the biodiversity and complexity of even the smallest natural elephant habitat, where elephants spend their days walking, foraging, exploring, caring for young, and socializing.

9. Describe the seminal fluid collection process used with Billy.

***Zoo Ans:** Billy is asked to enter the ERD (see answer b. below) and the back door is closed. Once he is in position feces are removed from his rectum manually and with an enema. A trained staff member then stimulates his urethra and vas deferens via his rectum until an erection and ejaculation occurs. The entire procedure takes five to fifteen minutes.*

a. Why does the Zoo and AZA believe this process is necessary?

Zoo Ans: *The ultimate goal of any AZA SSP program is to manage a sustainable population that retains 90% or more of the genetic diversity available in the population for 100 years or 10 generations. To accomplish that goal all founding members of the population need to be equally represented. Billy is a wild-born male with no offspring and is unrelated to any other Asian elephants in North America. It would be a great benefit to the overall population for him to sire offspring. Since the LA Zoo has no breeding age females we attempted to collect his semen which could be used to artificially inseminate females at other zoos. This would genetically benefit the overall population and avoid moving elephants around the country. However, we were never successful in collecting semen from Billy.*

Response to zoo answer:

Given that the zoo was never successful in collecting semen from Billy over a period of years, it has failed to comply with the SSP's breeding objective. (The zoo gives no reason for ending attempts to collect semen from Billy over 3.5 years ago, despite considering him to be genetically valuable.) The zoo has faced no repercussions for acting in Billy's best interest and not complying with the SSP's recommendation. It would be inhumane to resume what is inarguably an invasive procedure.

b. Is Billy able to voluntarily leave or stop the process? How? Has he ever voluntarily opted to leave? Has he exhibited signs or evidences of enjoying or not enjoying the process?

Zoo Ans: *Part of Billy's regular routine is to walk through the Elephant Restraining Device (ERD) in the elephant barn. The ERD is a chute with side walls and front and back doors and a weight scale in the floor that can be used to safely examine an elephant. All elephants walk through tire ERD so they are comfortable with it when needed. For semen collection Billy walks into the ERD and is given food while in there. The back door is closed to protect the Staff but the front door is left open so Billy can leave as he chooses. He has never left during the procedure which involves a Keeper manually stimulating him via his rectum.*

Response to zoo answer:

When Billy is in the ERD he is reinforced with favorite foods to encourage him to stay, more likely indicating that he is tolerating the procedure rather than enjoying it. This does not change the fact that collecting semen from Billy is an invasive process, one for which he did not volunteer.

10. How often is the soil at the exhibit rototilled? What logs or data exist to document this?

Zoo Ans: *All yards are rototilled once a month barring bad weather or mechanical failure of equipment. The activity is recorded on the Keepers' Daily Report and included in each elephant's permanent computer record by the Zoo Registrar. The actions are also recorded on the Grounds Staff calendar.*

Response to zoo answer:

Roto-tilling is only necessary because of the small amount of space the zoo provides for the elephants. Without it, the immense weight of the elephants tamps down the soil, causing it to become compacted and hard – even as hard as concrete. Walking and standing on this unyielding surface contributes to often-lethal foot disease and arthritis in elephants.

11. How often are the elephants exercised? What logs or data exist to document this?

***Zoo Ans:** The elephants are exercised each day passively by moving them around the habitat and providing enrichment items (typically food) to encourage searching. Each elephant is actively exercised every day with a target of two hours each. The actual time spent exercising is recorded on the Keeper Daily Report and entered into their individual computer record.*

Response to zoo answer:

Anyone who has watched the elephants enter a yard where food has been spread knows that it takes very little time – and exercise – for the elephants to locate and ingest the food. The addition of another possible two hours of walking from point A to point B for food is helpful but considered to be minimal. According to elephant foot care experts Alan Roocroft and Dr. James Oosterhuis, principal veterinarian at the San Diego Zoo, “one to two hours of walking each day should be considered the minimum amount of time an elephant needs for cardiovascular activity. This should be keeper supervised exercise, not just strolling around the exhibit” (2001). Certainly, the LA Zoo should be exceeding the minimum amount of time necessary for healthful exercise. At a sanctuary, Billy would have a 15-acre enclosure in which he could spend unlimited time walking, exploring, and foraging for fresh vegetation in a more natural environment.

12. Conservation:

a. Are Asian Elephants on the endangered species list? If so, at what level and are there estimates for when the species could go extinct in the wild?

***Zoo Ans:** Asian elephants are listed as endangered by the US Fish and Wildlife Service and the IUCN Red List. There are an estimated 40,000-50,000 Asian elephants remaining in the wild, but these populations are decreasing rapidly and segmented into small island populations. Elephants used to roam most of Asia, but now they're restricted to just 15% of their original range. It is very difficult to estimate when or if this species will go extinct in the wild. The work and contributions AZA zoos and other conservation organizations have made are vital to keeping this species from going extinct. It is estimated that there were over 100,000 Asian elephants at the start of the 20th century. You can see how quickly they are disappearing. http://wwf.panda.org/what_we_do/endangercd_species/elephants/Asian_elephants*

b. How do Species Survival Plans (SSPs) work at the LA Zoo? What are Global Species Survival Plans and how do they differ? How do SSPs work for sustaining global populations in the wild?

Zoo Ans: *As mentioned above, the goal of any AZA SSP program is to manage a sustainable population that retains 90% or more of the genetic diversity available in the population for 100 years or 10 generations. This is done by looking at the entire SSP population to manage it for maximum genetic diversity and a sustainable demographic (i.e. age and sex ratios) using sophisticated population analysis software. Each SSP has a Coordinator, a Studbook Keeper and Steering Committee all of whom are employees of AZA Accredited facilities. Periodic breeding and transfer plans are developed in concert with all facilities holding the species.*

There are only a few Global Species Survival plans as transferring animals globally is challenging both financially and logistically. When done it is often for genetic diversity' purposes. When an AZA SSP works globally they usually work with EAZA, the European AZA. They are managed very similar to the regional SSPs only there may be a larger gene pool.

SSPs focus on genetic and demographic diversity for three primary reasons. First is to ensure that populations that reside in our zoos and aquariums are healthy and fully representative of their species. Second is to develop techniques that can be used in the field to support wild populations. And third is to maintain reserve populations that have the genetic capacity to survive in the wild if they are reintroduced.

Response to zoo answer:

The AZA SSP programs for elephants are targeted at ensuring an ongoing population of elephants for display in zoos. Zoos readily admit that they do not intend to reintroduce any adults and/or offspring to range countries, contrary to the generally accepted measure of ex-situ wildlife conservation. In fact, the most effective conservation programs strive to replenish or re-establish species, and they are most effective when combined with recovery objectives for wild populations (Snyder 1996). Without this objective, zoo breeding programs and their relevance to elephant conservation are questionable. Furthermore, captive breeding programs may harm ex-situ conservation objectives by diverting important resources from habitat protection (Conde et al. 2013). Neither of the IUCN (International Union for the Conservation of Nature) Red Data list entries for Asian or African elephants lists captive breeding as necessary conservation measures.

While some research in zoos has contributed to field work, most zoo research concerning elephants is focused on reproduction. (In the wild, elephants have no problem reproducing and there is no need or application for such research in range countries.) Zoos have failed to create a sustainable population of either African or Asian elephants in North America. With deaths outpacing births, the aim of creating a “reserve” population is out of reach. To achieve such a goal would involve not only captive breeding on a scale and with results far and away exceeding anything achieved to date, but also importing wild caught, primarily female, elephants from range countries.

The *Seattle Times* (Berens 2012) analyzed 390 elephant fatalities at accredited US zoos for the previous 50 years. Most of the elephants died from injury or disease associated with captive conditions, from chronic foot disease caused by standing on hard surfaces to musculoskeletal

disorders from inactivity in small enclosures. Of the 321 deaths for which Berens had records, half the elephants were dead by age twenty-three, about a third of their expected life span of sixty-five to seventy years. He found that the number of elephant births failed to offset deaths, which will lead to the demographic extinction of elephants in US zoos within the next 50 years. Recent data further supports Berens' report: Sixteen elephants died in AZA-accredited zoos during 2017 and 2018; average age at death was just 36 years. Not included is a three-week-old calf who died in 2018.

The SSP Breeding and Transfer Plan itself concludes that the American population of elephants is "unsustainable," and details the extensive hurdles to maintaining elephants in captivity, including an exceptionally high first-year mortality rate (35 percent for males and 32 percent for females); shortened life expectancies ("few elephants have had the opportunity to live their full lifespans"); "demographic instability"; and low reproduction (pp. 6-10). It admits that "[e]ven with **drastic** changes in management, it was predicted to be difficult to maintain the current population size in the future, let alone grow the population to a larger size" (p. 8) (emphasis added).

The Breeding and Transfer Plan further states that because captive elephants reproduce poorly, "demand for animals exceeds the number available for placement" and zoos face a "continual shortage of animals for exhibits" (pp. 8-9). The SSP is not working towards any benefit to the species in the wild or as a whole; it is working to stock zoo exhibits.

c. What animal species have been specifically saved or assisted by LA Zoo efforts and by Zoos in general? How has the California condor program worked to rehabilitate this species?

Ans: *In addition to the California condor the LA Zoo has assisted in the direct recovery of bongo antelope, Arabian oryx, golden lion tamarin, Peninsular pronghorn antelope, Sumatran rhino, mountain yellow-legged frog and California red-legged frog. In addition, zoos are known for assisting the direct recovery of the black-footed ferret, Mexican and red wolves, Prezwalski's horse, Bali mynah, Attwater prairie chicken, Guam rail, Wyoming toad and many other amphibian species threatened by chytrid fungus, just to name a few. Just as important is how zoo techniques are being used in the field for conservation and recovery of similar species. Additionally, the LA Zoo donates an average of \$150,000 each year to conservation projects in range countries with funds provided by the Greater Los Angeles Zoo Association (GLAZA). AZA institutions combined are donating nearly \$250,000,000 each year to field conservation efforts. At one time the California condor ranged over the western United States. However, in the 1980's their numbers had decreased to just 22 birds due largely to the effects of pesticides thinning their eggs, lead poisoning and loss of habitat. By 1987 all surviving birds were captured and brought to the Los Angeles and San Diego zoos due to our preexisting techniques for managing and breeding vultures and large birds of prey. Beginning in 1991 and 92 in concert with the US Fish and Wildlife Service and the California Department of Fish and Wildlife condors were being released back into California and Arizona. Today we are approaching 500 condors in and out of the wild with most birds in the wild. In July 2018 a California condor was spotted in Wyoming for the first time in 100 years. This past year along with our partners of zoos, state and federal*

wildlife agencies and NGO's committed to condor conservation the LA Zoo was awarded AZA's North American Conservation award.

Response to zoo answer:

The zoo's efforts are to be applauded, however, this information is irrelevant to the discussion of Asian elephant Billy. Relocating Billy to a GFAS-accredited sanctuary would not impede any of the zoo's conservation activities.

c. How does the LA Zoo work to support local elephants programs in Asia?

Zoo Ans: Each year the LA Zoo donates to two separate Asian elephant programs. Since 2007 the Zoo has donated \$204,000 to Wild Earth Allies (formerly Fauna and Flora International) to help protect Asian elephants in Cambodia. FFI began working in Cambodia in 1996. Particular attention has been given to mapping elephant distribution and identifying priority areas for their management along with teaching residents how to live compatibly with elephants. With this foundation, FFI has addressed the conservation needs of threatened areas and flagship species (Asian Elephants, Pileated Gibbons, Yellow-Cheeked Gibbons and Siamese Crocodiles) through strategic partnerships with the Cambodian Government, non-governmental organizations, universities and local communities.

For the past four years, the LA Zoo has donated \$5,000 annually to the Biodiversity & Elephant Conservation Trust. This is a Schools' Awareness Program that is carried out in the rural districts of Sri Lanka, where there are incidents of human-elephant conflict. The program consists of a half-day session in each school, where the children are given lectures/presentations on Sri Lanka's elephants, natural environment and biodiversity. Over 2,100 schools have been completed under this program in the last fourteen years at around 150 schools per year.

Response to zoo answer:

Again, the zoo is to be applauded for its efforts to support conservation efforts for a variety of species. Relocating Billy to a GFAS-accredited sanctuary would not impede any of the zoo's conservation activities, including those for elephants.

13. What is the typical lifespan and age and mortality of elephants in zoos and sanctuaries?

Zoo Ans: Longevity of elephants is not well understood, and most of the available information comes from African elephants. Recent data suggests that African elephants rarely live to the age of 50. Evidence suggests that Asian elephants typically live into their mid-50s, but there is not enough consistent data available on wild Asian elephants to accurately estimate their lifespan. Wiese and Willis calculated life expectancies of captive elephants in 2003 using data on live and dead elephants through 2001 and found an average life expectancy of 44.8 for Asian elephants in North America using survival analysis estimates. They predicted that life expectancy would increase over time as zoo elephants continued to age. Elephant ages at the LA Zoo currently are 54, 52, 48 and 33 years of age.

Response to zoo answer:

The longevity of elephants in nature is actually well understood. Lee et al. (2016) write:

Elephants, humans and whales share a lifespan of 70-100+ years, making them rare among mammals. Maximum lifespan has been estimated at 74 years from tooth wear (Lee et al. 2012) in wild female African elephants (*Loxodonta africana*) and ~80 years for Asian elephants (Lahdenperä et al. 2014).

Cynthia Moss, who has been studying free-living African elephants for more than 45 years with the Amboseli Trust for Elephants in Kenya, writes that 70 years maximum longevity “is reasonable for African elephants in the wild.” As referenced by Lee et al., Asian elephants are generally known to have a longer life span than those of African elephants. Some Asian females are capable of reproducing after reaching 60 years of age (Lahdenperä et al. 2016, citing Lahdenperä et al. 2014).

While maximum longevity represents the longest-lived individuals, it informs us of the capacity for long lives in elephants (not all humans live to 100+, but, depending on conditions, can live 75-80 years or more). Free-living elephants are subject to disease, drought, lack of food and water, poaching and other conditions that temper life span. One would not expect them to live exceptionally long lives. On the other hand, elephants in zoos are provided prepared diets, daily husbandry, and veterinary care, yet they are dying prematurely. With the care elephants receive in zoos and the nonexistent danger of poaching or drought, elephants should be living far longer and healthier lives. The *Seattle Times* study already referenced (see response to zoo answer to question #12) found that of the 321 deaths in US zoos for which the paper had records, half the elephants were dead by age 23, about a third of their expected life span. Most deaths were due to captivity-related ailments such as foot disease and arthritis.

The zoo purposely understates elephants’ natural life spans in order to make the shortened life spans of captive elephants appear “normal” and therefore acceptable. In fact, a 2008 study by Clubb et al. contradicts the LA Zoo’s claim that African elephants rarely live to age 50. The study found that the median life span for female African elephants undergoing natural mortality in Kenya’s Amboseli National Park is 56 years. Some female elephants at this park have successfully produced calves in their 60s.

Regardless of the age to which an elephant lives, it is the quality of life that is important. Elephants like Billy deserve to live in larger and more natural conditions that more closely meet their complex physical and psychological needs.

14. What is the practice of other zoos in keeping their bull elephants separate from other elephants? (How do other zoos manage elephant social interaction?)

Zoo Ans: *There is no one way to answer this as it depends on the number of elephants, sex ratio, individual elephant demeanors and habitat layout at each zoo. From conversations we understand that most zoos do not house more than one adult bull at any time. Those bulls may*

be managed with females fulltime or intermittently if breeding is desired. Denver Zoo is housing all bulls and has been integrating the bulls together at different times.

No response to zoo answer.

15. What are typical practices in zoos in captive environments and interaction of a bull elephant in the wild?

Ans: Wild Asian bulls will remain with their maternal herd until they are 8-9 years of age. At that time they are pushed out of the herd and may follow on the periphery as the herd moves through its range. Young males may form loose association with other young bulls but typically live a more solitary life at full maturity. Mature bulls in musth will attempt to enter female herds for breeding and leave after becoming exhausted during a time of heightened activity with little food and water consumed.

No response to zoo answer.

16. What is the typical range of an Asian elephant in their natural habitat? (include a family, clan, or herd in square mileage).

Zoo Ans: The elephants range is directly related to available resources such as food and water as well as the presence of people, i.e. the more resources the smaller the range. The IUCN Asian Elephant Specialist Group and Smithsonian Scientists report ranges as large as 232 square miles in resource barren Southern India and as small as 11.6 to 61.8 square miles in parts of Sri Lanka or 6 to 20 square miles in Myanmar. Within these ranges the family groups typically traverse .62 to 5.6 miles per day. This is comparable to the activity of our elephants at the LA Zoo.

Response to zoo answer:

The zoo misses the point here. Elephants in the wild are not walking back and forth in the same acre or two, as they do at a zoo. They are fully utilizing tens to hundreds of *square miles* of habitat, in which they are foraging, exploring, mating, interacting with their families, and engaging with a larger network of elephants. These elephants lead enriched lives in dynamic natural environments that keep them physically active and challenge their keen minds.

17. What is the range of an Asian Bull elephant in the wild compared to captivity?

Zoo Ans: Free-ranging elephant home ranges will be as large as necessary to find needed food and water while avoiding human communities but are typically smaller than those recorded for family herds. The elephant range in captivity is limited to the size of the individual habitat provided but resources are also provided so the elephants do not have to search for resources. However, because of that, they have to be encouraged to use the entire habitat through enrichment opportunities and exercise.

Response to zoo answer:

Elephant enclosure size in captivity is based on the space and resource restrictions of the individual zoo – and not the needs of the elephants. Again, the zoo misses the point in its

answer. Elephants *want* to search for, select, manipulate and ingest their food. In nature, elephants forage for food and water 16-18 hours a day. This is what elephants have evolved to do, and their health and well-being are inextricably linked to this important behavior. Just because food and water are provided nearby does not mean that elephants lose their innate motivation to move and forage. When thwarted from performing strongly motivated behaviors, elephants may develop abnormal repetitive behaviors called stereotypies. (Also see response to zoo answer to question #24.)

18. Please compare Billy's experience to elephants in zoos across the country (and world).

Zoo Ans: *Billy lives in one of the largest and most complex zoo elephant habitats in the world. In the US there are only 9-10 other zoos that are comparable. Once he began to mature at about 9 years of age he was managed in total protected contact meaning that Keepers did not enter his space and used voice commands to ask him to comply. During his life he has lived among other elephants and was a frequent companion of female Gita. Currently due to the advanced age of our nonbreeding females he can see them, touch, hear, smell and communicate with the females but not enter the same yards. This is not atypical elephant management within other zoos.*

Response to zoo answer:

The LA Zoo makes a bold statement in claiming to provide one of the largest and most complex zoo enclosures in the world, but does not provide evidence to support it.

It is safe to say that Billy's experience at the LA Zoo is similar to elephants in other zoos in that bull elephants are not afforded the conditions they need to thrive, including larger, complex environments. Billy may have more room than elephants in some zoos and the benefit of a warm climate, but it is still not enough to meet his natural needs. At a sanctuary, Billy would have 15 times the space he is given at any one time at the LA Zoo, allowing for healthy movement and far more choice and control in his life. Expansive natural environments offer a complexity that cannot be attained in zoos, with expanded visual, auditory and olfactory experiences and the opportunity to engage in more natural behaviors.

The LA Zoo glorifies the conditions of Billy's confinement over the years, most of which was spent in seriously substandard conditions. Billy has been separated from other elephants for at least 20 of his 33 years. He formerly lived in a barren, quarter-acre enclosure. Around 2004, Billy shared his tiny enclosure with Gita (the two were separated by a fence), but only out of necessity. The zoo lacked sufficient space for its elephants when African elephant Ruby was returned from the Knoxville Zoo. (Ruby was later relocated to the PAWS Sanctuary; the zoo suffered no negative repercussions due to the move.)

19. What is the health and wellbeing of an elephant at a sanctuary compared to a zoo?

Zoo Ans: *With the caveat of a good sanctuary and a good zoo, it has the potential to be the same but not superior.*

Response to zoo answer:

We appreciate the zoo's recognition that a GFAS-accredited sanctuary provides for the health and well-being of its elephants, just as a good zoo does. While the quality of husbandry, training and management may be similar, the conditions at an accredited sanctuary differ significantly. Greater space, increased movement, and variation in terrain afford elephants the opportunity to improve physical condition and stamina. Overall well-being is enhanced in a variety of important ways: a male elephant would live out his life at the sanctuary and not be faced with potentially multiple transfers between zoos for breeding, larger spaces have more environmental complexity and offer more choices, seasonal changes bring different behavioral opportunities and sensory experiences, and increased privacy and the quiet of nature make it possible for an elephant to be at ease.

20. What are the typical reasons for a Zoo to move an elephant to a sanctuary? At a sanctuary, what level of staffing and medical care is available? What connection would Billy be able to have with other elephants?

Zoo Ans: Zoos would typically move an elephant to a sanctuary when they have decided to close their elephant program and cannot find an acceptable home within another zoological facility. If it is an AZA Accredited zoo they would be expected to make sure the sanctuary had resources including staff, veterinary care and finances to support the elephant(s) through their natural life. We are only aware of one current sanctuary that can house adult bulls. They are housed individually but adjacent to other elephants.

Response to zoo answer:

Not all zoos that moved elephants to sanctuaries did so because they were unable to find an acceptable home in other zoos. Some zoos — including Detroit, San Francisco and Nashville — chose an accredited sanctuary over another zoo. The Philadelphia Zoo chose to send one of its three elephants to a sanctuary and the other two to an off-site facility run by a zoo that is no longer accredited by the AZA.

The level of staffing and veterinary care found at the nation's two GFAS-accredited elephant sanctuaries is comparable with that of good zoos.

21. What is the social and psychological life of an elephant bull in the wild v. in captivity?

Zoo Ans: See answers in questions 14, 15, 17 & 18.

Response to zoo answer:

There is no comparison between the life of a bull elephant in captivity versus the wild, starting from birth in a family group through adulthood. Captivity cannot offer anything close to the dynamic social and ecological environment a bull elephant would experience in his natural home range.

At a GFAS-accredited sanctuary, the goal is to provide an elephant with as natural a life as is possible in captivity, with a focus on respecting each elephant as an individual and providing the care and conditions that better meet that elephant's physical, social and psychological needs. Natural environments filled with grass, trees, natural vegetation and pools allow the elephants to actively engage in instinctive behaviors that are important to their health and well-being. Little is required of the elephants, outside of routine training for husbandry and veterinary care. In contrast, space in zoos is limited and contrived, exhibits are designed to accommodate human pleasure rather than the elephants' needs, and breeding is prioritized, often subjecting elephants to invasive procedures and transfers to other zoos.

22. How does the LA Zoo's elephant of Asia exhibit compare in size, complexity, and enrichment to other AZA elephant facilities?

Zoo Ans: In the past 10 years several zoos have expanded their elephant habitats. There are currently 9-10 facilities with comparable or larger habitats than ours.

No response to zoo answer.

23. How does Billy's feet compare, in appearance of the pads and nails, to Asian elephants in the wild and in captivity of a similar age and gender?

Zoo Ans: An elephant's foot health is important to their ability to travel for food and water. Foot injuries, infections and lameness occur in free ranging and zoo elephants. Therefore, Billy's feet are inspected and cleaned daily by elephant Keepers to make sure there are no cracks or abscesses that require treatment. The feet of free ranging elephants are rough with wavy undulations that provide traction when walking. Billy's feet are similar except excess skin is removed to prevent dirt from being trapped and potentially injuring his feet. His nails are inspected as well and trimmed when needed to prevent stress on the nails. Billy voluntarily presents all four feet to Keepers and/or Veterinarians for examination.

Response to zoo answer:

The zoo fails to cite any sources to support the statement that foot and joint problems occur in wild elephant populations to the extent they do in captivity. In fact, evidence points to the opposite:

In the Amboseli population where the life histories of over 2,000 free-ranging individuals have been followed for 34 years, **wild elephants do not develop foot problems (zero cases); they are not seen swaying rhythmically back and forth (zero incidents in over 34,000 sightings of groups containing 1- 550 elephants);** they do not have difficulties conceiving (two cases of infertility out of 558 females over 10 years old); they do not kill their own infants (zero cases out > 1500 births); they do not attack and kill the individuals with whom they are bonded (zero cases; unlike captive elephants who injure and kill their keepers). All these zero cases in the wild add up to an enormous amount of evidence that elephants need space to be elephants. (Poole 2005)

Please also see response to the zoo's answer to question #7.

24. Regarding Billy's head-bobbing.

a. What is stereotypic behavior and how does it evolve? How did Billy come to develop stereotypic behavior and what efforts have been made to mitigate the behavior?

Zoo Ans: A stereotypy is a term for a group of phenotypic behaviors that are repetitive, morphologically identical and which possess no obvious goal or function. Billy came to the Zoo as a calf in 1989 and already exhibited a head bobbing behavior that was thought to be a pacifying behavior, like thumb sucking, at that time. Since then he has transferred the behavior to times he anticipates the arrival or attention of his Keepers. Since his behavior has a purpose we refer to it as repetitive versus stereotypic. Thousands of hours of behavioral observations followed by changes in his daily routine have reduced, but not eliminated his behavior.

Response to zoo answer:

Stereotypic behaviors – also called abnormal repetitive behaviors – are ubiquitous in captive elephants. According to a zoo-wide study of elephants in AZA-accredited facilities, “stereotypic behavior was the second most commonly performed behavior (after feeding)” (Greco et al. 2016). It is confounding that the LA Zoo would deny that Billy displays stereotypic behavior, when it clearly meets behavioral descriptions of that activity.

Billy primarily displays head bobbing, performing this behavior whether or not keepers are present, sometimes for extended periods of time, as witnessed by many observers over many years. This differs from anticipatory behavior, such as a dog wagging her tail and jumping as her owner approaches. The dog is not repetitively tail wagging and jumping for the better part of the day in anticipation of her owner. That would be cause for alarm in any dog owner.

The idea that Billy is anticipating keeper attention is not the only fantastic theory formulated by the zoo. There is no evidence to support the concept of “transferring” repetitive abnormal behaviors from one supposed source (coping) to another (anticipation), as suggested by the zoo. This theory is simply baseless.

In a zoo environment, stereotypies are associated with these potential causal factors: paucity of behavioral opportunities, lack of sensory stimulation, stress, and frustrated motivations to perform specific behaviors (Clubb et al. 2006; Swaisgood and Shepherdson, 2006). The last factor includes a behavior such as foraging, which is highly important because it is essential for survival in the wild and elephants engage in it for most of their waking life. Elephants are highly motivated to forage, and this innate behavior remains strong even in a zoo where food is typically parceled out by keepers.

There is no evidence that stereotypies inevitably help animals cope and that stress reduction is involved. If there are coping effects, it is unknown whether these are truly causal in the development and continued performance of stereotypies or a beneficial side effect (Wurbel 2006). In *Stereotypic Animal Behavior: Fundamentals and Applications to Welfare*, the authors write that stereotypic behaviors are pathological and have implications “for the way we currently house and use animals...” (Rushen and Mason, 2006)

Finally, to the best of our knowledge, no behavioral studies conducted by the LA Zoo on Billy's stereotypic behavior have ever been published in a peer-reviewed journal where they would be subjected to academic scrutiny. It is highly unlikely that the zoo's theories about Billy's behavior would pass muster in the scientific community.

b. What evidence is available to show when Billy's stereotypic behavior developed and why the Zoo believes the behavior is a sign of anticipatory behavior rather than boredom or stress?

Ans: The Zoo's Animal Curator and Elephant Managers accompanied Billy from Malaysia to Los Angeles and reported that he exhibited this behavior in Malaysia. Again, behavioral studies illustrate the relatedness to his behavior to the presence of his Keepers.

Response to zoo answer:

It would be no surprise that Billy began repetitively head bobbing while in captivity in Malaysia. The fact that it continues at the LA Zoo indicates that his complex needs are not being met. Again, the zoo's behavioral studies have not been scrutinized by any peer-reviewed scientific journal.

25. How does Billy rank amongst AZA Asian elephants for genetic diversity?

Ans: As a wild-born Asian elephant with no offspring, Billy is genetically unique and therefore, important to the North American population. He is one of four genetically important Asian bulls and second in unrelatedness to other Asian elephants in North American.

Response to zoo answer:

Billy is an intelligent, emotional and self-aware individual and not just a collection of prized genes. He deserves to live out his life in the larger and more stimulating natural environment offered by a GFAS-accredited sanctuary.

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