

One Veterinarian's Search for Truth in the “Lucy the Elephant” Debate

Debi Zimmermann AHT, B.Sc (Zoology), D.V.M.

June 30, 2009

Table of Contents

Biographical Sketch	3
Introduction.....	4
Argument No. 1	8
Argument No. 2	13
Argument No. 3	13
Argument No. 4	16
Argument No. 5	19
Argument No. 6	26
Argument No. 7	35
Argument No. 8	53
Argument No. 9	56
Argument No. 10	58
Argument No. 11	61
Summary	64

Biographical Sketch

Debi Zimmermann graduated from the Western College of Veterinary Medicine (WCVN) in 1988. In addition to her doctorate degree, she earned a degree in Biology with a specialization in Zoology, from the University of Alberta, and a diploma in Animal Health Technology from the Northern Alberta Institute of Technology. Her experience in wildlife includes rotations in Wildlife Medicine, Exotic Animal Medicine work on a Peregrine Falcon breeding project, and a course in wildlife immobilization. Dr. Zimmermann has visited Zoos on many continents, and has been fortunate to spend several weeks observing African elephants in the wild (Kenya and Tanzania), as well as working Asian elephants in Cambodia and Northern Thailand.

Dr. Zimmermann purchased the Terwillegar Veterinary Clinic in 1994. She was one of the few veterinarians in Alberta, who accepted “exotic” patients such as rabbits, rodents, ferrets, reptiles, amphibians, and wildlife. Her practice had a strong focus in chronic pain management, and end-of-life care. Dr. Zimmermann was named Global television’s Woman of Vision for January 2002, after she rebuilt her practice following a devastating fire during which she entered the burning building just in time to rescue the 11 animals under her care at the time.

As time passed, Dr. Zimmermann became increasingly aware of the amount of animal suffering that extended far beyond her doors. After over twenty years of sharing the care of animals one-on-one, she wanted to find a way to help animals on a more massive or global scale. Dr. Zimmermann sold her veterinary practice in late 2008, to enable her to focus on animal advocacy work, and to delve into her other passions of painting, nature photography, and entrepreneurial adventures. Dr. Zimmermann is owned by three big dogs and an even bigger horse.

Dr. Zimmermann is a member of the Canadian Veterinary Medical Association, the Alberta Veterinary Medical Association, the Edmonton Small Animal Veterinary Association and the International Veterinary Academy of Pain Management.

Introduction

Lucy (aka Skanik) is a female Asian elephant, who was captured in Sri Lanka in 1975, as an orphan under a year of age. Initially shipped to the Colombo Zoo, she was transferred to the Edmonton Valley Zoo in 1977. Lucy was kept alone for the next 12 years, with the exception of two short breeding loans to Calgary, between 1987 and 1988. In 1989, the Edmonton Valley Zoo acquired Samantha, a 1-year old female African elephant, captured in Zimbabwe.

The Valley Zoo, originally the *Storyland Valley Zoo*, opened in Edmonton in 1959. The Valley Zoo is operated by the City of Edmonton, and funded through Edmonton City Council.

In June 2007, Samantha was sent to North Carolina on a breeding loan, for at minimum of five years. Lucy, now in her 30's, is alone again. Due to the climate, Lucy spends the majority of her time confined indoors. A medical record review conducted by Zoocheck Canada in 2007 and published in 2008, found that for most of her life, Lucy has been suffering with severe chronic infections, most notably in her feet, and arthritis. It is important to note that foot problems and chronic infections, are cited as the leading cause of premature death in zoo elephants. More recently, a malpositioned molar has been causing Lucy significant discomfort, and is now considered the cause of the respiratory distress that Lucy has been experiencing since 2004. Zoocheck Canada also conducted a behavioral study in 2007, which found Lucy to be lethargic, and exhibiting pronounced stereotypic behaviors, such as abnormal swaying and rocking. Stereotypic behaviors are aberrant behaviors, felt to be caused by frustration, boredom and stress. Samantha, still present at the time of the study, was also noted demonstrating these same stereotypic behaviors.

Lucy is North America's northern-most elephant housed alone. Both elephant and animal welfare experts agree, that Lucy's chronic health issues are exacerbated by being housed in a northern climate, which subjects her to confinement on cold, hard substrate, for the

majority of the time. They also agree that her diseases are both chronic and advanced, and that she needs better living conditions and a more comprehensive program of medical attention than can be provided at the Zoo in Edmonton. Lastly, they argue that keeping a female elephant alone, runs contrary not only to what science knows of elephants, but also national and international zoo association recommendations. Despite this, the City of Edmonton is resolute in their claim that Lucy is well-adjusted healthy elephant overall, and just fine where she is.

For years now, protests and petitions have been calling for the relocation of the Valley Zoo's elephants. In early 2009, celebrity show-host, and prominent animal welfare advocate, Bob Barker, joined the campaign and along with Zoocheck Canada, offered to fly experts in elephant medicine up to Edmonton at no charge. In addition, there are standing offers for an all-expense paid transfer for Lucy to either The Elephant Sanctuary (TES) in Tennessee, or The Performing Animal Welfare Society (PAWS) sanctuary in California. Despite all of the controversy, the City steadfastly refuses to relinquish Lucy and declines all outside offers of assistance.

Elephant sanctuaries offer elephants a chance to live out the rest of their lives in a way that is as congruent with their natural biology as possible. The Elephant Sanctuary, for example, operates three completely separate and independent elephant facilities on a single parcel of land, consisting of a 200-acre (80 hectare) quarantine facility, a 300-acre (120 hectare) African facility and a 2200-acre (880 hectare) Asian facility, each equipped with specialized barns and fencing, and staffed with trained caregivers working in two shifts from 7am until 12pm, seven days per week. Their website explains, "*Many elephants living in captivity suffer wounds so deep that by the time they come to us, they are a mere shell of an elephant. Through our comprehensive treatment system we are able to accomplish our mission to facilitate each elephant's emotional and physical recovery.*" A glimpse of TES can be seen at

<http://www.youtube.com/watch?v=mXh77zoWEeA>.

The Asian elephant habitat at The PAWS Sanctuary can be viewed at

http://www.youtube.com/watch?v=tY5CmFIIm-uE&feature=player_embedded

According to management, the Valley Zoo makes its decisions based on science, not emotion. This paper comes out of an extensive review of the vast body of science available on elephants, a comprehensive examination of Lucy's complete medical record, numerous discussions with industry experts and zoo veterinarians, and a conversation with the Edmonton Valley Zoo veterinarian. This paper lays out the Valley Zoo's arguments and show how they sharply contrast with the science available.

The Zoo's primary arguments presented during interviews, and documented in the Zoo's own Master Plan, (endorsed by City Council members), as to why they are opposed to moving Lucy to a sanctuary, are summarized as follows:

1. Lucy is the Zoo's icon. Without their flagship animal, they would "lose their cause célèbre for fundraising", and attendance would drop.
2. The Zoo's logo is an elephant.
3. Dean Treichel, Supervisor of Animal Care and Operations at the Valley Zoo, claims The Zoo is an accredited member of CAZA (Canadian Association of Zoo Animals), and is therefore held to very high standards. This, in his opinion, should carry a lot of weight.
4. Lucy has dedicated keepers who love her and spend a lot of time with her. These people are the only family she has ever known, and they have essentially become her "herd" Lucy has dedicated keepers who love her and spend a lot of time with her.
5. Lucy is a calm, well adjusted and extremely well cared for elephant.
6. The Animal Protection Department was satisfied that Lucy was receiving proper care at the Zoo, and they accepted that her "re-occurring flare-ups of chronic

arthritis”, were being controlled by a strict weight control program of diet, along with increased training, enrichments and exercise throughout the day.

7. Lucy receives regular veterinary care, and her health team consults with elephant experts, and industry professionals. Outside help is not required.
8. Lucy has health issues that preclude her from being transported safely.
9. Lucy is antisocial.
10. Without Lucy, they will be hampered in their efforts to educate the public about elephants.
11. The Zoo suggests that animal welfare advocates are emotional, often turning their focus on zoos. The Zoo wants to be clear that they make decisions based on science, and what is best for the health and well being of the animal, not on emotional grounds.

ARGUMENT NO. 1: Lucy is their icon, and without their flagship animal, they would lose their cause célèbre for fundraising, and attendance would drop.

This statement may be valid, however, there needs to be clarity over what the issue really revolves around. We have opposing parties arguing two separate issues; on the one hand, we have City Council and their zoo officials, declaring that if they lose their icon, they would suffer financially and the future of their Valley Zoo would be uncertain. On the other hand, we have animal advocates, arguing for what is best for Lucy: a sentient, intelligent and highly social animal, who is undeniably suffering in her current circumstances. So which argument is on the table here; “*What is best for Edmonton and its financially-challenged zoo*”, or “*what is best for Lucy?*”

In the absence of drought and human predation, elephants in the wild can live into their 80’s, with the average lifespan between 60 and 70 years of age. Despite protection from drought and human predation, zoo elephants are usually dead by 38 (Kiiru 2007). The leading cause of death in zoo elephants is chronic infections and foot problems. The oldest elephant in Canada currently is 44 years old. (Limba, reportedly born in late 1964). Of their adult elephants at the Calgary Zoo, 2 died at 8 years of age, and one at 16 years. The Toronto Zoo has had 5 elephants die at their facility, all under the age of 40. The Alaska Zoo’s elephant, Annabelle, died of chronic foot infections at age 33.

Lucy is now 34 years of age, and her records indicate that she has suffered from both chronic infections and foot problems since 1989. Her chronic arthritis, obesity, stereotypic behavior, and molar issues, can all be attributed to a life in captivity, and are greatly diminishing her quality of life. Zoocheck Canada stated, “the (Valley) zoo doesn’t acknowledge that her physical and social environment is extremely poor and that Lucy’s chronic health problems are a result of her living conditions. If she stays where she is, in all likelihood Lucy will not survive over the long term.” This bleak prognosis, combined with statistics that show the life expectancy of zoo elephants around 38 years,

means Lucy may die shortly if she were to stay at the Valley Zoo. In the end, the City's Zoo could well be without their icon and flagship animal, regardless of their decision.

Finances are definitely central to this debate. The Valley Zoo is operated by the City of Edmonton, and funded primarily by City Council, who has full control over the zoo's management. Edmonton City Council had approved the 30 million dollar Master Plan proposed for the Zoo in 2005. It should be noted that elephants were always part of this new plan. In their vision for their African exhibit, the Zoo describes, *"the Zoo's herd of four elephants is dominated by its matriarch and her female offspring. Much like in the wild, the one young male will remain with his mother only until he is old enough to emigrate to a zoo with the specialized facilities needed to care for a full-grown bull elephant"*.

Also, if their last elephant were to go, their 1.3 million dollar elephant house would stand empty.

The Zoo anticipates losses in attendance revenue. Many factors influence attendance levels at The Valley Zoo however, besides their token pachyderm. According to comments posted on discussion forums devoted to zoo and animal conservation enthusiasts (i.e. Zoo chat), the Valley Zoo's reputation can be considered poor.

The following example posted by "Snowleopard" on Zoonet31-03-08, echoes the views of others on the thread relating to the Valley Zoo

<http://www.zoonet.com/223/edmonton-valley-zoo-15475/> :

*"I've posted a few comments about this ***** little zoo on other threads, but overall it is a truly pitiful sight and should be torn down. The sea lion exhibit for the 3 aging pinnipeds is as bad as any you'll ever see in the worst Asian zoos, the red panda yard is a joke, the one and only elephant spends a huge chunk of her life inside a poorly designed concrete jail, the gibbons and other primates would be better off dead than living in the enclosures that they are trapped in... and the list goes on."*

I was born in Edmonton, lived there for ten years, and visited the zoo many times during that decade. I have been back to the zoo only once in 20 years, and it took me exactly one hour to go around and get the hell out of there before I launched into a protest.

One major black mark on the zoo is that in the wintertime (which can be half the year in frosty Edmonton) the animals are placed in their "winter quarters". The less said about those exhibits the better...."

Another Zoo chat member writes, "I was born in Edmonton and visited the Valley Zoo many times as a child, but in the past 20 years have only been back once. The solitary occasion of my visit was shocking, as the zoo is behind the times in so many ways. With only 300 animals I often wonder why the establishment doesn't close down permanently and offload the inhabitants to some of the 220 AZA zoos in the U.S., or even to other prominent institutions around Canada."

The Zoo's image will deteriorate even further, should they continue to make excuses to perpetrate an animal's suffering, for monetary reasons. The fact that they are in violation of CAZA standards does not help their cause. Their actions certainly do not live up to their stated mission, which reads in part, "*To be, for the citizens of Edmonton, both a symbol and a focus of their concern for and interest in nature.*" They are also failing on at least two issues they promised their master plan would address, which include "*increasing public and professional pressure to provide for enhanced animal welfare for the species in our care*", and, "*providing space for rich social lives ... animals, staff, and visitors.*"

It is critical that the City Council and Zoo directors understand that their reputation is on the line in this debate. If Lucy's health deteriorates while they continue to violate regulations, ignore their public's appeals to have Lucy moved, and act contrary to their mission statement; their image may never recover. Their stated goal of raising \$8 million

in donations from individuals, corporate and government sponsors would be unattainable, and the future of the Zoo jeopardized.

As it is, the Valley Zoo is chronically underfunded, and at times, understaffed. Many of the original structures from 1959 are still in use, with minimal upgrading except for a new coat of paint. As a result, elephants and other animals on display suffer from substandard housing conditions. For example:

- The sea lions languish in a desperately small swimming pool. This is acknowledged on Zoo's own website which states, *"The South American Sea Lions are currently housed in inadequate facilities. The group is aging and probably has a life expectancy of no more than ten years. They are wonderful charismatic animals that deserve a better situation. Recommendation: make necessary, but very modest, water quality improvements only to existing facility"*.
- Lucy was in her 20's before a bigger elephant enclosure was built to accommodate her mature size.
- Lucy suffered with severe, chronic foot infections for half of her life before flooring was improved with respect to heating and drainage.
- In 2006, their African elephant (now on breeding loan) had torn approximately 20cm off the end of her trunk after getting it caught in an enclosure gate latch.
- Lucy's health record: September 19, 2007: *"keeper removed 2-inch stick from hole in left front foot"*, and July 2004: *"Sharp object removed from hole in pad on right foot"*.

Here is what Zoo enthusiasts wrote about the substandard exhibits at the Valley Zoo on ZooChat:

- *The winter quarters for the zoo's animals are appalling, the sea lions would be better off dead, the gibbons have a puny little glass-fronted cage that is an embarrassment, and the list goes on and on... (31-03-2008).*
- *The Valley Zoo should really abandon any notion of keeping elephants in Edmonton forever, and move on to smaller, less controversial mammals. The photos that you posted show how poorly designed some of the enclosures are, and as you already pointed out...how can any zoo erect such a terrible red panda exhibit? The worst exhibit of the lot is the one for the aging trio of sea lions. Poor bastards... (01-04-2008)*

It appears, therefore, that the Zoo may also be **in breach of Section III.B. of the Animal Care Standards within Government of Alberta Standards for Zoos in Alberta, a regulation of the Animal Welfare Act**, states that: *“All equipment, fixtures and vegetation must be installed in such a way that they do not present a hazard to the animals and must be maintained in good working condition.”*

Lastly, we need to ask ourselves, “In this day and age, do we really need to imprison animals in a Zoo for any reason?” *Menagerie-style* zoos, which all Canadian Zoos fall under, first appeared in the late 1800’s. Wild animals were quite the novelty then, as the average person would otherwise never be able to see animals that lived in the far reaches of the wildernesses around the globe. For maximal viewing pleasure, the animals were kept in small enclosures, made of easy to clean concrete, and with sparse furnishings so as not to obstruct the spectator’s line of sight. Little has changed with these menagerie style zoos, where the focus continues to be on the human experience, and not the animal’s. The Valley Zoos Master Plan 2005 reiterates this basic doctrine in their statement (page 5) *“Never forget that the Zoo is in the “visitor experience” business.”* For educational purposes, rather than watching a psychologically disturbed animal rocking or pacing in a barren environment of concrete, steel bars, and electrified trees; we have National Geographic publications and productions, the BBC (ie. Planet Earth Series), IMAXX movies, YouTube, National Parks, wilderness safari’s, and virtual

reality. If you look at how far we have come in the past 100 plus years, with computers, cellphones, space travel, telecommunications networks along the ocean floor, skyscrapers, supersonic jets, the end to slavery, equal rights for women and for minority groups; there is nothing that has stayed the same since the 1800's, except for our archaic, and pitiful menagerie-style zoos, and circuses.

ARGUMENT NO. 2: The Zoo's logo is an elephant

The Zoo's logo displays a tusked elephant, representing either a male Asian elephant, or an African elephant, of which currently the Zoo has neither. The impact of losing the logo would be dependent on how strong the Zoo's brand is in the marketplace. The zoo, according to some, may already be considering rebranding themselves, including changing their logo.

ARGUMENT NO. 3: Dean Treichel, Supervisor of Animal Care and Operations at the Valley Zoo, claims The Zoo is an accredited member of CAZA (Canadian Association of Zoo Animals), and is therefore held to very high standards. In his opinion, this should carry a lot of weight.

CAZA accreditation is voluntary, and not a legal requirement. It is also important to note that CAZA is simply an industry association, whose mandate is to protect its members (the zoos), not to protect animals. In addition, many of the CAZA members violate CAZA guidelines on a regular basis, including those guidelines considered mandatory for accreditation, such as perimeter fences. Asking CAZA for their opinion on the welfare of animals in their members care is akin to asking a pesticide industry association, if their member's products may harm the environment. In any event, the following section will illustrate how the Valley Zoo may be in violation of not only several CAZA guidelines,

but provincial and international zoo association regulations as well.

Lucy has been alone since 2007, and Dean Treichel has stated that there are no plans to acquire more elephants. By keeping Lucy alone, the Valley Zoo is in violation of the following CAZA's guidelines:

CAZA 15: *“Facilities must provide an opportunity for each elephant to exercise and to interact socially with other elephants unless under extenuating circumstances. (evaluated by veterinarian and elephant manager), and*

CAZA 28: *“ elephant management facilities should make every effort to maintain elephants in social groupings. It is inappropriate to keep highly social female elephant's singly long term.”*

The Zoo chose to send their only other elephant (Samantha) away on a long-term loan; as obtaining a calf was a higher priority. Even if she is successful in producing a calf, Samantha and her calf's future remain uncertain. The Zoo stated that they would need to, *“ determine if there is the political will, and financial capability, to bring Samantha and her baby back as the basis for a new social herd of 3 to 5 elephants. (Options would be to) expand the exhibit to accommodate them... or redevelop the Elephant House as a Tropical Walk-through or Gorillas habitat.”*

The Zoo may also be in violation of the following:

CAZA 11.1, *“All elephants must be visually inspected on a daily basis. A general assessment be made and any unusual activities must be promptly dealt with and recorded in the daily log. Specifically, reports should include observations of the individual elephants such as condition of urine and feces, eating and drinking patterns, administration of medications, and any general condition and behavior.”*

The medical log primarily documents times when Lucy received attention for a medical concern, when drugs were given, or when laboratory samples were taken. If Lucy was being treated, records were kept closer to daily, however, outside of those times; notes were entered usually weekly, corresponding to the veterinary visits. However, on several occasions, there were 2 to 8 week gaps between notations, and even 4 to 8 *month* gaps during the earlier years. Although the keeper's records occasionally make note of unusual observations under the "comments" section, there is no checklist for general physical condition, urine/feces observations, or behavior. Despite numerous infectious processes, Lucy's body temperature was only noted in her medical record once in 30 years.

An obvious change in record keeping occurs around April 2008, where little to no veterinary comments are entered, with reference made only to the chronic drug administration for her arthritis. It should be noted, that Zoocheck Canada obtained Lucy's medical records via Freedom of Information legislation in 2007, and published their first findings early in 2008, which is around the time that the record keeping becomes sparse.

If certain data is purposely being withheld, this would not only constitute a violation of CAZA, but it would also be in direct violation of the **Government of Alberta Standards for Zoos in Alberta Section IIB's Animal Health Records**: *The veterinarian must document activities as per the AVMA (Alberta Veterinary Medical Association) health record-keeping protocol* and, "**Currency of Records**: *Animal records must be kept current and data logged daily.*"

By keeping Lucy alone, the Zoo is in **violation of the Government of Alberta Standards for Zoos**, specifically standards related to **the Animal Protection Act, Section B: 1. General Exhibits Standards**: *"All animals must be maintained in numbers sufficient to meet their social and behavioral needs."*

According to the Government of Alberta Standards for Zoos in Alberta, regulation Section II.B.2. Specific Exhibit Standards, *"The Alberta Zoo Advisory Committee will use the America Zoo and Aquarium Association (AZA) Minimum Husbandry Guidelines*

for Mammals to evaluate applications for an Alberta Zoo Permit. Minimum Husbandry Guidelines for Mammals identifies minimum standards (at the species or species group level) for lighting, temperature, humidity, food and water, social groupings, exhibit size and sanitation and veterinary care. Therefore, applicants for an Alberta Zoo Permit are advised to use these guidelines as a reference during the development of their Animals Care Protocols and exhibit descriptions for mammals.”

With respect to group size, the Valley Zoo is in direct violation of the **AZA Minimum Husbandry Standards 2.3.1.** specifically states that, “*Zoos should make every effort to maintain elephants in social groupings. It is inappropriate to keep highly social female elephants singly (see Sukumar 1992, Taylor and Poole 1998, EMA 1999). Institutions should strive to hold no less than three female elephants wherever possible. All new exhibits and major renovations must have the capacity to hold three or more female elephants. Institutions that do not currently meet the group size standard should demonstrate that they have requested assistance from the SSP in obtaining additional animals.*

ARGUMENT NO. 4: Lucy has dedicated keepers who love her, and spend a lot of time with her. These people are the only family she has ever known, and they have essentially become her “herd”.

A bond with humans, no matter how strong, cannot be a justification for keeping an intelligent social animal isolated from her own kind, and, in an unnatural climate. No one is challenging the dedication of her keepers, or the level of care they deliver. However, it should be noted that at 7:00pm, the end of the last keeper’s shift, Lucy is left alone in her stark surroundings. Supervisor, Dean Treichel, said that Lucy demonstrates “*anticipatory behavior while she waits for her herd (keepers) to show up*”. The constant companionship of other elephants offered by sanctuaries, would spare Lucy the anxiety she experiences when her “herd” abandons her every evening, and reassembles every morning.

Extensive research into the natural history of elephants has shown that:

- Even a cursory review of the three elephant species' natural history, furnishes ample evidence that the herd is as important an influence on an elephant's life history strategy as social nurturing is to humans (Wittemyer et al.2005).
- Female elephants spend their entire lives in natal cow/calf herds (Eisenberg 1981; Moss 1988; Estes 1991; Sukumar1994). Herds of African elephants can number from 11 to 50 individuals; Asiatic elephants typically have herds of 5-7 individuals.
- Moss observed that a young calf is rarely more than a few feet from its mother, and is often less than one foot away (1988, 162). Mother and calf are in almost constant physical contact. *"Even at 9 years a calf may spend over half the time less than 5 m from its mother"* (Estes 1999, 227).
- Elephants are highly social, intelligent, sensitive animals which have evolved very complex systems of communication, that include physical contact, body movements and postures, chemical cues, seismic vibrations, infrasound and a broad array of audible vocalizations.
- Elephants are socially gregarious, intelligent animals, whose herd life is marked by routine periods of intense socializing apparently aimed at herd cohesion.
- *"Elephants are very much contact animals. Family members often stand touching while resting or drinking. They lean and rub their bodies together, and often touch one another with their trunks in various contexts"* (Estes 1991, 262).
- Herd members engage in greeting ceremonies, play, play fighting, and synchronized moving, bathing and resting (Moss 1988; Douglas-Hamilton 1975; Sukumar 2003).

Even CAZA recognizes the basic need for all elephants to be in the proximity of other elephants, even adult males which lead relatively solitary lives as compared with female elephants: CAZA 28.3. *Adult males may be housed alone, but not in complete isolation. Opportunities for tactile, olfactory, visual, and/or auditory interaction with other elephants should be provided.*

It is widely accepted that elephants are sentient beings, self-aware, and highly intelligent. In fact, female elephants have the most complex and extensive social network of any mammal studied, other than primates.

The Best Practices document compiled in 2005, by the Coalition for Captive Elephant Well-Being contends, *“while congregations of large number of individuals are common experiences for elephants in the wild, captive elephants will never experience the networking, social support, or bonding opportunities these congregations offer.* (Forthman1998: 244). *The principal problem associated with confining large, socially gregarious animals like elephants is the inability of most zoos to provide appropriate space for a socially viable sized group.”* In regards to this, *“one solution to this problem is obvious, if insufficient space is available for an appropriate herd, the species should be excluded from the collection”* (Forthman1998: 244).

The depth of the connection elephants have with their family/herd members, cannot be replicated by scheduled human interaction, nor can Zoo staff simulate the sensory-chemical systems of communication that inform appropriate elephant behavior and help provide social order.

At either the The Elephant Sanctuary, or The PAWS Sanctuary, Lucy would be part of a herd of female Asian elephants, roaming over acres of forest and grassland and bathing in spring-fed pools. Lucy would be in the constant company of other elephants, who can read and respond to each other’s complex communication systems, and who would provide the social stimulation, and social structure essential to female elephants. Sanctuaries are not open to the general public, and interaction with the elephants is

limited to providing for their basic needs. No simulations, no substitutions, no crowds, no screaming children, no abandonment at quitting time; only real elephants, in a natural setting, in a warm climate.

ARGUMENT NO. 5. Lucy is a calm, well adjusted and extremely well cared for elephant.

In 2006, Zoocheck Canada contracted Kenyan elephant biologist, Winnie Kiiru, to conduct an inspection of all elephant facilities in Canadian zoos. While Ms. Kiiru reported that all of the elephants she observed were living in conditions that failed to satisfy a full range of their biological and behavioral needs; of all of the elephant enclosures, she identified the Edmonton Valley Zoo's as the worst. She concluded that Edmonton's climate is completely inappropriate for elephants, their social environment was entirely inappropriate, there was insufficient space for the elephants to express natural movements and behaviors, and their physical and mental state appeared poor. She recommended that the City of Edmonton take immediate action to move Lucy (and Samantha at the time), to a sanctuary, and close the elephant exhibit.

As appreciated on the videos, Lucy's indoor space is a concrete and metal barn, with illustrations of trees on the walls.

Lucy's outdoor enclosure is approximately ½ acres (0.2 hectares), surrounded by a low metal barrier and an electric fence. There is no vegetation in the enclosure and the ground is mainly hard-packed earth. There is ample vegetation outside the enclosure giving the impression of a lush environment, but it is inaccessible to Lucy. There is only one rock to rub against, and a small sand pile. There are no pools of water to drink from let alone wallow in.

The Zoo therefore appears to be in violation of **the Government of Alberta Standards for Zoos in Alberta, Standards Related to the Animal Protection Act, Section B: 1. General Exhibits Standards:** which states that,

- a. *“Exhibit enclosures must be of sufficient size to provide for the well-being of the animal. All animal exhibits must be of a size and complexity sufficient to provide for the animal’s physical and social needs and species typical behaviors and movements.*
- b. *Exhibit enclosures must include provisions (e.g. permanent and/or non-permanent features and structures) that encourage species typical movements and behaviors, and,*
- c. *“ Enclosures must be of a sufficient size and design to allow individual animals the opportunity to avoid or withdraw from contact with other animals in the enclosures or remove themselves from the view of visitors, using topography (e.g. large earth mounds, large rocks), fixed features (e.g. fences, walls, screening, shelter boxes), moveable fixtures (e.g. brush piles, root balls) or other design methods.”*

Zoo Supervisor, Dean Treichel mentioned new improved flooring associated with building of their new elephant facility in the past 5 years. Given this recent construction, the Zoo may not be in compliance with **The Alberta Zoo Advisory Committee’s requirement to abide by the AZA Minimum Husbandry Guidelines for Mammals**, which states, *“ All new exhibits and major renovations must have the capacity to hold three or more female elephants.*

The Zoo appears to be also being in violation of **CAZA 23.3**. *“While outdoors, all elephants should have the ability to access features which allow them to thermoregulate (such as shade, water, sand/mud etc)”*.

Although Lucy has a wooden shelter and a pile of sand provided in her outdoor enclosure, there are no trees, or water pools. When elephant expert Winnie Kiiru visited Lucy on 28 degree_Celsius day, she commented *“Lucy made no attempts to cool herself by dusting herself or flapping her ears while standing in the hot midday sun.”* This behavior can be described as apathetic.

Lucy's apathetic disposition can also be seen in her only transient interest in the logs, rubber tires and balls provided for her. Apathy, it should be noted, is one of the lowest emotions on the "Emotional Tone Scale", along with despair and powerlessness.

Supporting this is Zoocheck's two-day behavioral study (April 2007), which found Lucy to be abnormally inactive. "On Day 1 she was inactive for 81% of the time and on Day 2 she was inactive 72% of the time". For a highly social, extremely active species that is biologically and behaviorally structured for walking, foraging, exploring, and interacting with conspecifics, this finding is cause for concern. They go on to say, " (this inactivity) does not however properly convey the gravity of Lucy's situation, because Lucy's movement and stimulation are further restricted through confinement indoors during off hours, a practice that may exacerbate her already serious physical health issues, such as arthritis, and contribute to a variety of unpleasant emotional states."

In the opinion of elephant experts, Joyce Poole and Peter Granli (*Mind and Movement: Meeting the Interests of Elephants*, 2008), the proximate causes of suffering in captive elephants (i.e. foot problems, arthritis, reproductive health status, obesity, stereotypic behaviors) have been the focus of attention, however, the ultimate source of captive elephant suffering, is the overall lack of biologically relevant mental stimulation and physical activity.

Lucy demonstrates stereotypic behaviors believed to be caused by boredom, frustration and stress. During the time elephant expert Winnie Kiiru, spent with the Zoo's elephants, she noted, "Lucy walked out of the barn and took a position just outside the door. She started rocking back and forth making one step forward and then rocking back and forth on the spot. She repeated this for about 10 minutes... There were no keepers in sight and numerous attempts to find them were fruitless." (*The Sad State of Captive Elephants in Canada*, January 2007). Lucy has also been observed going into the same rocking motions when she hears children approaching. "Voice for animals" recorded several minutes of Lucy standing and rocking in the far corner of her indoor enclosure, oblivious

to what was happening around her, <http://www.youtube.com/watch?v=Tjme56PRpbQ> (posted May 31, 2008). Zoo veterinarian, and elephant expert, Dr. Mel Richardson, described this stereotypic rocking behavior as “checking out, going to a happier place in her mind”.

The author spent some time observing Lucy recently on a mild spring day. Lucy emerged from her barn, lazily picked up the only log in her outdoor pen and tossed it aside, and briefly rubbed her leg on the only rock available to her as she walked by. She walked slowly over to the metal bars dividing her outdoor enclosures, grabbed the uppermost bar in her mouth and clamped down on it for some time. Lucy was then drawn to the new grass and budding shrubs planted just outside the perimeter of the pens. She spent considerable time and effort reaching over the bars, and stretching her trunk out and around as far as it could reach. For all of her trouble, she was only able to gather a few short blades of grass with her trunk, and after bringing them to her mouth, she let her trunk fall back down to the ground with a thud. With nothing else to stimulate or engage her, she slowly lumbered back to the barn, and then stood motionless in the doorway. The Storyland train noisily rumbled by for the third time in the past hour, where each time the conductor explained that Lucy is the only elephant who chooses her own paint colors, then encouraged everyone to yell out, “Hi L-u-c-y!”

Despite mounting evidence to the contrary, the Zoo continues to declare that Lucy is enjoying the good life, stating that “her quality of life is pretty darn good”, and that “she’s a lucky girl.” In December 2008, Denise Prefontaine, Director of the Valley Zoo, was quoted in The Edmonton Journal as saying, “*Lucy is a calm, well-adjusted and extremely well-cared for elephant.*” This was followed by the release of a video by the City of Edmonton posted February 16, 2009, http://www.youtube.com/watch?v=T_AIH05Zuao. This video shows Lucy walking through a lush jungle-like setting, walking at her own pace and eating whatever she wishes. It is implied that this depicts a typical day in the life of Lucy, one filled with “trees and sun and lots of exercise” and where “3 to 4 hours out of her day are spent out grazing”. (Note the video shows Edmonton’s river valley trees and fields in full bloom,

which only occurs during our very short growing season of May through September). Several other You Tube videos show a very different reality, and more accurately depict Lucy's day- to-day experience. Three of the most illuminating are:

- “v4editor” <http://www.youtube.com/watch?v=Tjme56PRpbQ> (posted May 31, 2008),
- “elemama 10” <http://www.youtube.com/watch?v=6WupAMExJIE> (posted March 29, 2008)
- “Save Lucy” (cotonsalways) <http://www.youtube.com/watch?v=rtECYbaffE4> (posted April 07, 2008), and
- “hatrockscave” <http://www.youtube.com/watch?v=vfWoYdfrlj8> (posted February 23, 2009)

Further support for Lucy's reality comes from a person who participated in Zoocheck's 2-day behavioral study of Lucy, documenting how Lucy is spending her day while the zoo is open to the public, presumably the most enriched part of her day.

“I spent an entire five hours sitting and watching Lucy, recording her behavior every two minutes. The vast majority of her time was spent standing in one spot with one leg raised, shifting weight every couple of minutes to another three legs. Sometimes she would go over to the bars of the barn and wrap her leg around it, then rock back and forth. She also spent a lot of time rocking in the corner looking at the wall. The most activity was when she was taken for a walk, but she was very stiff and kept on stopping. The keepers would pat her and encourage her to keep moving, don't touch the trees, etc. She just did what she was told and walked, not looking enriched in the slightest. Her keepers spent a few minutes with her every couple of hours, but there was no evidence that there were keepers with her constantly as the zoo implies.” (Devon, 2007)

Estes (1999) observed that a mother elephant and her calf are in almost constant physical contact, spending over half the time less than 5 m from its mother, even at 9 years of age. This observation, coupled with Wittemyer's summation (2005) that the herd is as important an influence on an elephant's life, as social nurturing is to humans; brings up another important issue; that of psychological trauma. Baby elephants acquired by Zoos, are often orphans, either as a result of herd culls, or in Asia, where two tame adult elephants are used to trap a wild infant between them and then the infant is subdued and taken away. Orphans, many of whom witness the horror of family members being slaughtered, must then endure the stress of the capture process, and subsequent long-distance transport which is often overseas. These babies must then cope with the added psychological and emotional trauma of being raised in the absence of their mother, and other family members. Post-traumatic Stress is now a recognized syndrome in elephants subjected to such violent early experiences. Orphans also miss out on the transfer of social knowledge handed down generation-to-generation, from experienced family members to calves. It should be remembered that Lucy was kept alone at the Valley Zoo until she was thirteen years old, virtually her entire childhood. Although this fact attests to the maltreatment Lucy received from Day One, her impoverished childhood does not preclude Lucy from successfully joining a herd. Previously solitary elephants, as well as those showing outward signs of post-traumatic stress syndrome, have successfully been integrated with other elephants at both TES and the PAWS sanctuary. Archie et al. (2006) also found that individuals who have no close relatives within their family still benefit from the cooperative behavior of the group.

In November 2005, Dr. Jones noted in Lucy's medical record: *"Both elephants at the Valley Zoo are healthy (with minor concerns,) appear happy and are being cared for with the utmost concern by the keeping staff."* Dr. Jones' anthropomorphic assessment that their elephants appear "happy" is a subjective and indefensible one.

First introduced in 1965, the philosophy known as "The Five Freedoms and Provisions", objectively identifies the elements that determine an acceptable welfare state *as perceived by the animal* (i.e.: *feeling really good*), which includes:

- 1) *Freedom from thirst, hunger and malnutrition*-by ready access to fresh water and a diet to maintain full health and vigor.
- 2) *Freedom from discomfort*- by providing a suitable environment including shelter and a comfortable resting area.
- 3) *Freedom from pain, injury and disease*-by prevention or rapid diagnosis and treatment.
- 4) *Freedom from fear and distress*-by ensuring conditions that avoid mental suffering.
- 5) *Freedom to express normal behavior*-by providing sufficient space, proper facilities and company of the animal's own kind.

It is apparent that based on The Five Freedoms, The Zoo is failing Lucy to some degree, on all but the first one. Therefore, as most of the basic tenets for welfare (defined as health, happiness and wellbeing), are not being met, it is unlikely that Lucy would consider herself "happy".

Eleven North American Zoos have recognized their inability to provide adequately for the needs of elephants and have either closed their elephant exhibits, sent their elephants to more suitable facilities, or chosen not to replace their existing elephants once they pass away. At least four Zoos and one Safari Park in the United Kingdom have also followed suit.

The Lincoln Park Zoo in Chicago opted not to bring in more elephants, after the death of their three existing elephants within a 6-month period.

In May 2004, Michigan's Detroit Zoo announced its precedent-setting decision to permanently close its elephant exhibit and retire two female Asian elephants, Winky and Wanda, to a sanctuary. On their website, they explained " Elephants require an appropriate (semi-tropical) climate that is more consistent throughout the year than a northern US temperate climate. Michigan winters are too cold for the elephants to be outside. They spent the majority of their time inside the building, which both prevented

them from traveling as much as they should and required that they spend long periods of time standing on concrete. They need to walk a great deal (miles every day) and be on soft, natural substrate like dirt to maintain the health of their feet and joints. In addition, captive elephants need to have complex social environments that include many other elephants of different ages”.

[\(http://www.detroitzoo.org/News%10Events/In_the_News/Elephants_-_Questions_and_Answers/\)](http://www.detroitzoo.org/News%10Events/In_the_News/Elephants_-_Questions_and_Answers/)

The Detroit Zoo was the first zoo to voluntarily close its elephant exhibit for ethical reasons and the eighth U.S. zoo to stop exhibiting elephants in recent years. Many of these Zoo elephants were transferred to sanctuaries, as were those from Chehaw Wild Animal Park in Georgia, who stated that their elephants “deserve to live out their remaining years in the best captive environment possible”.

ARGUMENT 6: The Animal Protection Department was satisfied that Lucy was receiving proper care at the Zoo, and they accepted that her “re-occurring flare-ups of chronic arthritis”, were being controlled by a strict weight control program of diet, along with increased training, enrichments and exercise throughout the day.

The welfare portion of the zoo regulations, are specified under The Animal Protection Act, and enforced by the SPCA (in this case the Edmonton Humane Society). When Zoocheck Canada filed their initial complaint regarding the Zoo’s violations in regards to Lucy, they found that the Edmonton Humane Society was not familiar with the laws they were charged with enforcing. After some prodding an investigation was launched, but the Edmonton Humane Society refused to enforce the regulations in the end. They had accepted the opinion of then Zoo veterinarian, Dr. Jones, expressed in a letter dated October 12, 2007. In that letter, Dr. Jones declared that Lucy was medically unfit to be transported now, or at any foreseeable time in the future. Referring to Lucy’s chronic breathing problem and her chronic arthritis, he claimed the stress of transportation would exacerbate either or both conditions, and would have severe consequences on her health.

He also assured them Lucy's *"re-occurring flare-ups of her chronic arthritis, (were) being controlled by her strict weight control program of diet"* along with *"increased training, enrichments and exercise throughout the day."*

Zoocheck Canada found it incredulous that an enforcement agency would simply take the word of individuals they were investigating, rather than obtaining an unbiased opinion from outside experts on elephant transportation and health.

In regards to exercise, Dean Treichel tells us that Lucy is walked at least twice a day. (CTV interview). The Zoo's website adds, "It's rare that Lucy doesn't take her walk, but if the temperature is too extreme she prefers to stay indoors just like we do".

On the topic of walks, the following should be noted:

- Despite the Zoo's claim that Lucy has been walked at least twice a day (weather permitting), for the past 14 days, she is still overweight, and her arthritis is progressing.
- Cold morning temperatures below -10 Celsius, preclude her from getting her daily walks which are scheduled in the early morning before the zoo opens to the general public.
- Saying that Lucy "prefers to be indoors" infers that Lucy has a choice in the matter.
- Even when the temperature is favorable, her walks may be omitted due to inclement weather, regardless of season, as noted in her records dated 18-Dec- 02: *"missed two walks due to ice"*, 31-July-02: *"did not walk as long due to cold and rain, and 15-Nov- 05: "unable to go walks lately due to weather."* A review of her keeper's notes also show that some days she is only walked once.

- Someone who accompanied Lucy on one of her walks, estimated the distance to be not more than one mile. This level of exercise, while better than none, does not even compare to what wild elephants naturally get. *Elephants are physically vigorous, and move almost continuously for 20 out of 24 hours (Moss 1988), in search of food and water. Sukumar (2003) calculates (elephants walk) 10-20 kilometers (7 to 13 miles) per day, without regard to species (Asian versus African).*

Elephant researchers like Shoshani (1992) noted that (wild) elephants range over large distances on a daily basis, from 20 to 30 km, in order to exploit resources. Despite the impressive distances elephants travel on a daily basis, the time that elephants remain active, 20 out of every 24 hours (18 devoted to foraging), is equally significant and impressive. (Zoocheck, 2007).

This brings up the important issue of space, especially since Zoocheck Canada estimated, after reviewing the 2005-2006 Environment Canada climate records for Edmonton, that Lucy and Samantha were locked indoors *more than 70% of the time*. This estimate is based on the zoo's own policy of only allowing the elephants outdoors when the temperature rises above 10 degrees Celsius, the fact that the elephants are kept indoors during non-visitor hours.

Zoocheck describes the Valley Zoo's indoor elephant enclosure as consisting of a barn separated into two distinct stalls divided by a concrete wall and entrance corridors that allow access between the stalls and to the outdoor yard. The floor of the barn is marginally, sloping, grooved concrete. A small electric barrier and dry moat separates one stall from the visitor's gallery window, while a heavy steel grid barrier separates the other stall. An alcove behind one of the stalls contained a large mound of sand.

The outdoor yard consists of relatively flat, bare earth substrate surrounded by a steel fence of moderate height. One end of the yard contains a large, open canopy structure

with several ground level vertical, wooden posts (presumably for rubbing) and a hanging plastic barrel. There were no other features in the enclosure.

CAZA's only specification on the topic of space states: CAZA 18: *Indoor space must provide adequate room for elephants to move about and lie down without restriction.*

AZA's recommendations, from which CAZA standards were derived, are a bit more generous, but still far from ideal. AZA's EMS mandate 75 sq. meters of indoor space and 252 sq. meters of outdoor space for two elephants. These mandates are unaffected by the climatic location of the exhibit (AZA 2003). CAZA's standards were modeled after AZA. In the wild, a modest elephant home range has been measured at 15 sq. km of 15,000,000 sq. meters. It follows that AZA's permitted barn space is about 200,000 times smaller than the smallest known space female African elephants have chosen for themselves. AZA's outdoor space is roughly 60,000 times smaller than the smallest known elephant home range.

CAZA has chosen not to include additional quantitative standards, as, in their opinion, *"there is no sound scientific evidence on which to base biologically relevant accommodation"*. The science that supports elephants having huge home ranges, however, has been around for over a decade. When you consider the following scientific observations, it follows that close confinement is as illogical as it is unnatural.

- Eisenberg (1981) observed that Asian elephants stay in a single area for no more than three days before moving on.
- Over time, elephants have evolved into creatures that can travel vast distances while expending relatively little energy (Langman, Roberts, Black, Maloiy, Heglund, Weber, Kram and 1995). They are huge, powerfully built animals that can transform a forest into a savannah. A successful captive environment, therefore, must provide them with sufficient space to fully exercise both their remarkable powers of endurance and strength.

- Elephants in the wild are typically on the move for 20 out of every 24 hours. Of those 20 hours of activity, 18 are usually devoted to foraging.

The Zoo may consider Lucy's environment adequate, and meeting industry standards, but from the public's viewpoint of the public, as well as that of many in the elephant keeping zoo industry, zoo animal welfare specialists, and Asian elephant centers, her concrete and packed earth environment is dismally small, bleak, and devoid of stimulation. Her barren surroundings are clearly demonstrated at 2:18 minutes into the You Tube video by "elemama" posted March 29 @ <http://www.youtube.com/watch?v=6WupAMExJIE>, as well as on <http://www.youtube.com/watch?v=Tjme56PRpbQ> ("v4editor" posted on May 31, 2008), and on http://www.youtube.com/watch?v=o_jennQzt4U (moshi mosh 123, July 19, 2007).

Not only does the small, barren environment lead to psychological distress, restricting movement contributes to the loss of muscle tone and strength, arthritis, obesity, and lack of proper circulation in the extremities leading to chronic infections. Consider the following:

- The health history of captive elephants in North America suggests that traveling over significant space on a variety of substrates and terrain are important to maintaining foot health in Asian elephants and to ward off arthritis and related disabilities and diseases in all elephant species (Fowler 2001).
- Recognizing the link between inadequate space and inappropriate substrates in the development of chronic foot disorders and arthritis, The Chicago City Council in 2005, resolved to pursue improvements of AZA's standards to better address the physical and psychological needs of elephants. This included defining adequate space (indoors and out) as large enough to allow elephants to exercise similarly to how elephants exercise in the wild with appropriate surfaces that eliminate or

reduce elephant contact with hard, unyielding surfaces.

- The elephant's large body and relatively inflexible limb joints, so well adapted for energy-efficient locomotion, are particularly vulnerable to arthritis in a sedentary captive environment (Weissengruber, et al 2006).
- As a result of the predominately stationary existence on smooth surfaces, the feet of captive elephants wear unevenly, causing improper posture of the feet, legs and spine, leading to painful arthritis in the extremities and vertebral column (Poole and Granli, Ch. 1: Mind and Movement 2008).
- We used to believe that preventive foot care and enriching the relatively small amount of space the elephants have with objects and "toys" might be enough. Now we understand how much more is needed to be able to adequately meet the physical and psychological needs of elephants in captivity, especially in a cold climate. We no longer think that we can provide the necessary social and physical environment for elephants.
- *AZA elephants' frequent experience of arthritis, osteomyelitis and other chronic and sometimes fatal orthopedic disabilities is well known* (Mikota, Sargent and Ranglack 1994; Csuti, Sargent and Beckert 2001; Fowler 2001; Roocroft and Oosterhuis 2001). Of interest is the last reference cited.

There is ample science supporting the fact that Lucy's chronic debilitating diseases of arthritis, obesity and chronic infections, can be attributed to the inhospitable climate of Edmonton, which necessitates close confinement for extended periods, on hard, impervious surfaces.

Merely treating the symptoms of diseases without addressing their underlying causes, is considered a Band-Aid approach, and not good medicine. It is analogous to your car's engine leaking oil (the problem), causing the engine light on your dashboard to glow (the

symptom), which you solve by taking out the bulb from the engine light in the panel (band-aid solution). Granted, certain situations may arise where suboptimal or symptomatic treatment may be only option, but that is not the case here. A chance to address the primary causes of Lucy's health issues has been offered, and it deserves serious consideration.

The Zoo will argue that they are keeping her comfortable, but, after 18 years of treatment for her arthritis symptoms, her disease has advanced to a stage necessitating daily pain medication.

The first mention of arthritis was at age 16, in 1991, which by 1999, progressed to the point where she was "not using back legs properly". The number of times that "pain", "swelling" or "arthritis" were mentioned in her records, were the highest from 2001-present, with the most entries made in 2007. (Note: minimal veterinary notations beyond August 2008). Records describe arthritic pain in all four legs, and both shoulders.

Despite their treatments, Lucy's medical records indicate days where her pain is not under good control. Consider the notes in just the past 1-½ years:

Dec. 2006	stiffer-did not finish hay last night
Jan. 2007	front left shoulder stiff and sore
Feb. 2007	left knee swollen and sore
Jul. 2007	front right "knee" very stiff
Aug. 2007	stiff knee, limited flexibility
Aug. 2007	very stiff, lifting front right leg while out on walk, right front "knee" quite swollen
Sept 2007	not laying down to sleep. Cannot stand in leg stand for trimming more than 5 minutes at a time. No long walks.
Oct. 2007	very stiff this morning
Oct. 2007	stiff right front "knee", swinging leg, seems stiff in shoulder. Very slow on walk. Fell asleep standing in the sun on her walk.

Nov. 2007	no flexibility at all in right front “knee”
Dec. 2007	difficulty stretching
Sept. 2008	arthritis front left leg more noticeable
Nov. 2008	Increased pain medication due to sore right hind leg.

From 2002 onwards, pain medication was administered “as needed” then changed to daily administration around September 2008. (The word *knee* is in quotation marks, as medically speaking, there is no *knee* in the forelegs. The proper medical terminology would be “carpus” (Latin for “wrist”).

With respect to engaging Lucy in stimulating activities:

CAZA 11.3 requires a “comprehensive environmental enrichment plan for elephants with documented evidence of implementation.”

The daily log sheets used by Lucy’s keepers, include sections labeled “Enrichment” and Training”. Under the “Enrichment” heading, options include:

- 1) FOOD: browse, popcorn, popsicle, sod, greens, berries
- 2) NONFOOD: water jugs, tires, ball.

Under the “Training” heading, choices include: “paint”, “choose own paintbrush”, “kick the ball”, and “play instrument” (which is either a harmonica or a recorder).

Ideally, activities designed for elephants, should enhance their normal repertoire of behaviors. Although the Zoo is on target when they say that “*all of her enrichments are meant to keep her mentally and physically active*”, their approach is suspect. In their opinion, “*Lucy has a very rich and varied enrichment program, where she is encouraged to do everything from playing sports and games to creative pursuits like painting and learning a musical instrument*”. These pursuits are not natural activities for elephants, and it appears that “entertainment” is being passed off as “enrichment”, from which

humans are deriving more of a benefit than Lucy. A comprehensive enrichment program would include strategies for keeping Lucy occupied during both business and off-hours, however Lucy's "enrichment" ends when the keepers leave for the day.

Although they ask Lucy to do leg stretches as part of her "physiotherapy", they also regularly ask her perform movements designed to entertain, as seen on <http://www.youtube.com/watch?v=L7EeBSDpsCc> , and to play an instrument or paint.

The problems with the non-medical activities that they consider training or exercise, are that:

- These activities as mentioned previously, do not simulate natural elephant behaviors,
- Forcing an intelligent beast like an elephant, to perform simplistic human-like behaviors, like painting, kicking a soccer ball, and playing a harmonica, degrades the animal because it gives people the impression that that is all they are capable of, when in fact they can do things and solve problems that make painting look like child's play. Asking elephants to perform acts purely for human amusement therefore, teaches people nothing about elephants or conservation. In reality, the message being sent here is that people have the power to have animals behave anyway that pleases us, which is really a lesson in dominance and exploitation.
- Lucy has suffered with pain and the progressive debilitation of arthritis in virtually all of her joints for 18 years now. Despite there being days where Lucy is so painful and stiff that they advise "cage rest", they still have Lucy entertaining the public. The You Tube video " Lucy: Edmonton Valley Zoo" [@http://www.youtube.com/watch?v=wNNm2PwR9s0](http://www.youtube.com/watch?v=wNNm2PwR9s0) (auroralina, November 25, 2007), shows her being asked to lift her right fore and right hind leg simultaneously. Given that Lucy weighs in over 3900 kg (8,600 lbs), the weight placed on her left forelimb is in the region of 2.2 tonnes, and the remaining 1.8 tonnes shifted to her left hind. Forcing arthritic Lucy, to support her massive weight on only two legs, for sheer entertainment, is unconscionable. If they

contend that it is part of her physiotherapy, then that would be a misguided notion.

With respect to her “strict diet”:

Lucy weighed in at 8,900 lbs (4,000 kg) in December 2005, and was put on a strict diet. On March 12, 2009, Lucy’s weight was recorded at 9,440 lbs (4290 kg). Therefore, even with her “strict diet”, her “two walks a day”, and times where she refused to eat (due to intense pain), she is actually gaining weight. Obesity limits activity, and inactivity exacerbates arthritis. Inactivity leads to loss of muscle mass and strength. Muscle atrophy, and the pain and debilitation caused by arthritis, further limits mobility, which again contributes to obesity. This is a lose: lose situation for Lucy.

Lucy also suffered from infections in both front feet for much of 2002 through 2005. Sore feet also severely limit mobility. Obesity, immobility, and chronic stress precipitate circulatory problems, which lead to chronic infections, and another vicious circle repeats itself. Circulatory problems themselves are another prevalent cause of death in zoo elephants. (Kiiru, 2007). Chronically infected feet also lead to osteomyelitis, and breakdown of the bones of the feet, a condition that often leads to euthanasia.

ARGUMENT 7: Lucy receives regular veterinary care, and her health team consults with elephant experts, and industry professionals. Outside help is not required.

The document declaring Lucy unfit to be moved, was signed by the Zoo’s former veterinarian, Dr. Robert Jones of the Uncas Veterinary Clinic. For over 17 years, Uncas Veterinary Clinic, a mixed animal practice outside of Edmonton, was contracted by the City of Edmonton to examine the Zoo’s animals once a week, and as emergencies arose. It wasn’t until 2007, when Dr. Milton Ness, was hired part-time, then brought on full-time in 2008.

Zoo veterinarians, however need specialized training and additional experience beyond their initial veterinary degree to effectively care for the various and unique animal species they will be entrusted with. In a 2005 study done by the Journal of Veterinary Education, they determined “*that few wildlife veterinarians believe that the training they received in veterinary school adequately prepared them to acquire and succeed in their field.*

Wildlife veterinarians and their employers ranked mentorship with an experienced wildlife veterinarian, training in leadership and communication, courses and externships in wildlife health, and additional formal training beyond the veterinary degree as important in preparation for success.”

Dr. Milton Ness graduated from the Western College of Veterinary Medicine in 1984, after which he worked in a mixed animal practice for approximately five years. He then became a small animal clinic owner and operator, until more recently, when he became an instructor at NAIT (Northern Alberta Institute of Technology). He spent approximately seven years as a teacher, before signing on with the Edmonton Valley Zoo in 2007. Dr. Ness admits Zoo medicine is a new field for him, with a steep learning curve, but one that he is embracing fully. (Personal communication, 2009).

Dr. Ness is essentially receiving his Zoo experience on-the-job, as he familiarizes himself with approximately 300 animals in their collection representing roughly 100 different species.

Dean Treichel claims, “*Lucy’s veterinarian and industry professionals believe any type of move would have severe consequences for her. Therefore, we believe the Valley Zoo is the best home for Lucy.*” (www.valleyzoo.ca).

When asked by reporter Todd Babiuk who the Zoo had consulted so far, Treichel named the Valley Zoo veterinarian, Milton Ness, and only one outside expert, Jim Oosterhuis, senior veterinarian at the San Diego Wild Animal Park. (The Edmonton Journal, March 10, 2009).

Treichel's expert, Dr. Oosterhuis, is both well credentialed and renowned in the captive elephant world. It should be noted however, that Dr. Oosterhuis was the senior veterinarian at the San Diego Wild Animal Park when their elephant, Dunda, was beaten. He was also the veterinarian on record, when the Hawthorne Circus was found in violation of the animal welfare act, and convicted on 19 counts of elephant abuse. As well, Dr Oosterhuis was the veterinarian who had examined two Hawthorne elephants, and deemed them healthy enough to continue performing only days before they died of tuberculosis. In 1996, Dr. Oosterhuis determined that the Hawthorne Corporation's elephant Joyce only suffered from a tooth problem. Joyce died weeks later with advanced tuberculosis and severe foot complications. When the USDA cited the Clyde Beatty-Cole Brothers circus in 1998 for keeping their elephants in poor condition, they called upon Dr. Oosterhuis to inspect the circus' six elephants. He determined they were all healthy enough to continue working. He claimed that elephant Pete was likely faking his injuries, and that although elephant Helen had a "trick" knee, she could still work with it. Pete died the following year after suffering with severe hip degeneration and chronic pneumonia. Elephant Helen was euthanized because of severe joint deterioration. Elephant Conti, known to have a kidney infection, also died within the year. These elephants were all forced to continue working to the end as even weeks before, Dr. Oosterhuis still contended that they were fine. (I-Speak communication)

In 2004, the scientifically responsible Alaska Zoo called in 11 experts to examine their sickly, lone Asian elephant Maggie, and cast their vote on whether or not she should be moved to the PAWS sanctuary in California. All but one expert determined a trip south was worth the risk. The single dissenting vote came from Dr. Oosterhuis. That being said, by the time they moved Maggie, Oosterhuis reportedly was very supportive of the move.

When Journalist, Todd Babiuk called on Dr. Oosterhuis in March of this year, he was unavailable for comment.

Lucy's medical care was documented in her medical records, which were obtained by Zoocheck Canada, via Freedom of Information Legislation. The records were to include

all medical history from Lucy's acquisition, until January 2008. It should be noted that there were virtually no entries made in her medical records from 1977-1980. As you will note in the brief summary that follows, Lucy has been dealing with numerous health issues, of a moderate to severe nature, for most of her life while at the Valley Zoo.

According to the health records released, Lucy had experienced **infections** as early as 1983 (tail), and **foot infections** began 1989. There are reports of infection in one area or another, (tail, cracked skin folds, ears, eyes, rectum, trunk) virtually every year thereafter. An abscess on her hip developed after a fall, and plagued her for the next three years. At times, her feet were infected to the point where one or more would be swollen, bleeding and/or oozing pus, and had toenails falling off.

The first time **arthritis** was noted was at age 16 years in 1991, and by 1998, she wasn't using her back legs properly. Records show that Lucy suffers from arthritis in virtually all of her joints, some of which swell up on occasion. The only radiographs of diagnostic quality were obtained from her right carpus (wrist joint) on March 02, 2002, which showed degeneration due to "severe" arthritis.

Lucy's **respiratory issue** was first noted June 2004; and manifested as snuffling and gurgling in trunk with some nasal discharge apparent. By June 2005, she was open-mouthed breathing, and experienced labored breathing when she lay down. In December 2005, it was noted that her "breath smells like rotting tooth", and the glands behind her ears were swollen. They also noted that she was "grouchy, slapping with tail, and kicking back".

At that time, there was mention of an old upper right tooth, with a "toonie-sized" ulcerated area at its base. After December 2005, there is no more mention of this tooth or any other dental issues, until February 2008, when a front molar had apparently fallen out (with no mention made of right or left).

In May 2006, she was diagnosed with Streptococcal pneumonia. By June 2006, she had difficulty breathing through her trunk, rested her head a lot, and was tired as she refused to lie down to sleep. She also had blisters inside her mouth.

Then, in November 2006, an organism known to cause a severe pneumonia in cattle (shipping fever) was cultured from Lucy's thick nasal discharge.

Despite countless infections, including pneumonia, antibiotics (other than topical) were only documented once, for a brief 5-day period in July 2006, but then stopped when Lucy became inappetent. A thick white discharge from her trunk was noted to continue intermittently to December 27, 2007. No tooth issues are mentioned during this time period.

By March 2008, not only was Lucy experiencing respiratory distress, but the glands behind her jaw enlarged again. As well, her right knee became severely swollen, all of which led her to stop eating and drinking, and refusing to open her mouth. She developed signs of colic over the next few months. The first time that a tooth was abnormal (**impacted molar**) is mentioned, is on April 24, 2008, “*impacted tooth looser. Tooth on other side loosening. Lethargic, not eating.*” At this point, entries into Lucy's medical records abruptly change, and virtually only her arthritis drug (name and dosage), is recorded every few days, save for the few times her “aching tooth” is mentioned, for which “Banamine” is administered. There is no mention made of her tooth, her respiratory issues, or her joints after September 30th 2008. It should be noted that the timing of the change in Lucy's medical records coincides with when Zoocheck Canada first started to report on Lucy's medical history, as was recorded in the records they obtained via Freedom of Information legislation. When Dr. Ness was asked why the notations stopped, he said, “because there have been no significant changes since that time.”

With respect to Lucy's foot issues:

An elephant's feet are adapted for walking long distances, over uneven ground, and the footpads are naturally worn down in the process. In Africa, for example, wild elephants stay on the move about 16 hours a day foraging for food and water, and walk over

various terrains. In Western Zoos however, elephants spend prolonged periods standing on hard, cold and often moist surfaces. Winnie Kiiru explains that despite provision of the even the best foot care by keepers, captive elephants commonly develop foot infections, which become chronic due to improper healing. When elephants cannot walk the great distances they were designed to, their circulation is impeded, which leads to improper healing. This condition is serious, and is the leading cause of death in elephants in North American Zoos.

For over a decade, Lucy suffered with the pain of severely swollen feet, toenails lifting off, and chronic draining abscesses. This pain, added to the chronic pain of arthritis, was so intense at times, that Lucy refused to eat. Often, when both front feet were infected at the same time (2002-2005), she either refused to get up for days at a time, resulting in the development of bedsores on her face, hips and elbow; or, she refused to lay down to sleep, which resulted in fatigue. Ultimately, the debilitation from her arthritis, her chronic infections, and fatigue were likely what led up to Lucy falling while on a walk, on August 18, 2002. Adding insult to injury, an abscess developed over her right hip as a result of the fall, which plagued her for almost three years (May 2005).

In Nov 22, 2005, the entry in Lucy's medical record reads, "*This elephant has ongoing health concerns, which are generally considered normal for housed elephants. Foot problems i.e.: toe cracks and abscesses have been under care for several years now and will likely continue to be a lifelong care issue for her. This becomes primarily a routine daily maintenance issue handled capably by keepers.*"

Daily flushings and countless foot soaks could not have been enjoyable for Lucy, or her keepers. In the Zoo's statement, they basically stated, without apology, that this was to be Lucy's lot for the rest of her life.

In a CTV interview, Dean Treichel went on record to say that since the Zoo improved the heating and drainage in their flooring system over the past five years, Lucy has no more health problems with her feet, and claimed that her feet are in great shape now.

Firstly, it is noteworthy that the Zoo has acknowledged the direct link between Lucy's foot issues and her flooring conditions. Secondly, Lucy's records indicate her feet continue to be a problem, as Dr. Jones predicted. Examples from Lucy's record:

Feb 15, 2006 "Back left foot. Pad very cracked" & "Back right foot. Pad very cracked, pad thicker than left foot":

March 8, 2006 "Front right foot – pad starting to heal on outside of pad";

April 19, 2006 "Front left foot second outside toes 3cm crack in nail on cuticle line";

July 26, 2006 "Small amounts of pus noted in left front foot";

September 19, 2007 " 2" stick pulled from a hole in the left front foot yesterday, hole was trimmed out."

November 15, 2007 – "Front left foot – outside nail swelling above cuticle line, cuticle line itself raw, cracked and has been bleeding":

Most importantly, even if Lucy's foot issues appear have improved somewhat since they addressed the flooring, it does in no way negate the fact that Lucy suffered immensely from intermittent foot infections from 1989-2002, then almost constantly from 2002-2006. For half her life, this massive beast had to deal with the discomfort, and often-intense pain, from foot infections directly linked to prolonged confinement on cold, hard, and/or wet surfaces.

With respect to Lucy's tooth issues:

Elephants get 6 sets of teeth throughout life, with the newest ones erupting in the back of

the jaw, and then moving forward with time. Elephant dentists agree that it is not unusual for zoo elephants to have tooth problems, relating to lack of browse or inappropriate browse. Although tooth problems may cause inappetance and colic, the treatment is usually to let the teeth move out on their own. This is the Zoo's current position. Although they admit they are concerned about the tooth and the respiratory difficulty they believe it to be causing, they have adopted a "wait and see" approach with Lucy, and plan to continue monitoring the situation.

Lucy's health records are confusing, as they do not clearly document which tooth they are referring to in their comments. In December 2005, their records describe a front molar as an old tooth with ulceration at its base, and in February 2008, they also note a front molar was lost.

Teething pain seems common amongst zoo elephants whose teeth are normally erupting, migrating forward, then falling out. It is not clear however if a tooth that is rotated 90 degrees, would be able to move along the jaw normally, and subsequently fall out naturally. The picture on the Zoodent International site shows what elephant molars look like normally (<http://www.zoodent.com/clinical/elephants.html>), and also abnormally (http://www.zoodent.com/clinical/elephants/molars_developmental.html). A close-up view of Lucy's mouth (posted November 2007) can be seen on the You Tube video, <http://www.youtube.com/watch?v=wNNm2PwR9s0>. Here one can see her right upper (maxillary) molar is clearly rotated compared to the opposite tooth, and it may even be impacting the hard palate. This tooth has been described in her records as "rotated", "mal-positioned", and "impacted." According to Zoodent International, rotation can be due to a lack of browse failing to produce physiological attrition and progressive tooth loss. This implies rotated teeth may not wear down and may not fall out normally. They go on to state "the lack of browse can also cause impaction of the molars, where extraction of the impacted segment becomes necessary, and, occasionally it is necessary and possible to extract molars in whole. Support for an impacted portion is the entry on August 19, 2007, where a piece of browse is found stuck in the right maxillary molar. Trapping of food and material only exacerbates the problem. Her records also clearly

describe the discomfort this tooth is causing her:

9-Feb-08: *Not eating hay, lethargic, very little water consumption.*

| *Loose cap in anterior of mouth. Tentative diagnosis is sore mouth secondary to **loss of anterior (front) molar**. The amount of pain killer (Buzone) normally given for her arthritis was increased. (MN)*

10-Feb.-08: *Back to eating hay and drinking, supports oral pain (as) was diminished by (increase in) Buzone treatment. (MN)*

12-Mar-08: *Not eating or drinking. Will not open mouth. (MN)*
(Note: no change in pain medications ordered).

13-Mar-08: *Eating well. Lymph nodes at angle of jaw swollen. (MN)*

16-Apr-08: *Off food, Painful tooth. Showing signs of colic today. (MN)*
Upper left tooth now loose too. Treat impacted tooth with Banamine single dose. (MN)

24-Apr-08: *impacted tooth looser. Tooth on other side loosening up. Lethargic. Treat with Banamine single dose (MN)*

| Pain related to the “ *malpositioned tooth_*” was treated with single doses of Banamine on 20-Jun-08/ 14-Jul- 08/ 21-Jul-08/ 25 Jul-08/ 26 Jul-08/ 13 Aug-08/ 16 Aug-08/ 12 Sept-08. Then again on 30-Sept-08: *tooth is aching, she is pushing on her jaw, decreased appetite*-single dose of Banamine given. This entry was the last one that mentioned her tooth or Banamine administration.

Despite Lucy already being on steady painkillers for her arthritis, this tooth appears to cause Lucy severe pain, as evidenced by head/trunk pressing, not eating, and refusing to

open her mouth. Although her tooth has not been noted in the minimalist records since last fall, it is likely that this abnormal tooth will remain a constant source of discomfort for Lucy, until such time as corrective measures are taken.

In a recent conversation the author had with Dr. Ness, he mentioned that the keepers use the water hose to lavage around her tooth, and that Lucy *“enjoys that so much that she often grabs the hose and lavages it herself.”*

Dr. Ness also admits that her pain is treated only on an “as demonstrated basis”, as painkillers can have serious adverse side effects. Caution is definitely warranted with non-steroidal anti-inflammatories, the goal being to give the lowest dose, at the lowest frequency that provides relief. That being said, a cautious dosing regime means that Lucy has to be in a severe pain state before her next dose would be administered. Not only does this allow for some degree of suffering, but the effectiveness of reducing pain once at full intensity, is far less successful than subduing it when the pain cascade is just starting. If a point is reached where non-steroidal anti-inflammatories are not effective, and where an increase in dose or frequency would be detrimental, then other options need to be considered. As well, it is prudent to protect patients receiving chronic high levels of non-steroidal anti-inflammatories, with antacid-type, or “gastroprotective” drugs to protect against ulcer formation in the stomach and intestines. There is no mention of gastro-protective agents being offered to Lucy, despite several being listed in the Elephant Formulary.

It should be emphasized that *dental* pain is excruciating, and second only to eye pain, in intensity. A “wait and see approach” only makes sense if a) this tooth is a normal tooth in a normal orientation in the mouth, 2) her pain is clearly mitigated, and 3) no other option is feasible. In Lucy’s case, the tooth is rotated, and possibly impacted, therefore it may not fall out naturally; she appears to suffer from break-through pain but higher doses or frequency of her current medication may be dangerous, and, all avenues of treatment have not been exhausted, as seasoned experts offering expertise and assistance have not been allowed access to her. It is important to note that this tooth alone, is a welfare issue

for Lucy. And, should surgery be required for correction, then merely treating it symptomatically, would be considered mere band-aid medicine and less humane. Granted, surgery in elephants carries incredibly high risks, especially in the face of respiratory compromise, but *all* of the options need to be seriously evaluated. At the core of these discussions should be Lucy's quality of life.

Lastly, given that radiology is near impossible, and that no reliable blood indicators for chronic infections exist in elephants, a tooth abscess cannot be ruled out. Symptoms that support an abscess are the development of a hole (ulcer) beside the tooth at one time, the foul smell, chronic nasal discharge, swollen lymph nodes, and pain so intense as to cause inappetance and pressing of the jaw into the wall. As well, on May 15, 2009, the author noted Lucy clamping her mouth down around a metal bar, and green paint smeared across the bridge of her trunk possibly from trunk-pressing on her green enclosure bars, one or both may indicate pain-relief seeking behaviors. Antibiotics in combination with potent painkillers, and a plan to remove the offending tooth, would be indicated for cases of tooth abscessation.

With respect to Lucy's respiratory problems:

Lucy has suffered from a respiratory problem since June 2004, which vacillates between severe sinus congestion, labored breathing when laying on her side (right and left), thick mucous discharge from the trunk (clear to white to "cottage cheese like"), intermittent mouth breathing, and pneumonia. Although initially felt to be an upper respiratory condition/sinus congestion, of allergic origin, the Zoo now contends that the primary cause of these respiratory issues is the impacted molar which they believe is impinging on Lucy's sinus cavity. Other than the mention of an old tooth causing problems for a few weeks in December 2005, the next record of a tooth issue however, wasn't until February of 2008, almost 4 years after the start of her respiratory problems. And, only in April 2008, was it documented to be an abnormal impacted/ malpositioned tooth problem.

Dr. Ness is unwavering in his assessment that the primary cause of Lucy's respiratory problem is the malpositioned molar impacting on Lucy's sinus cavity. When asked to

explain the almost 4 year gap between the onset of her respiratory signs and the diagnosis of an impacted molar as the cause, his response was that it took time for the pieces of the puzzle to come together. Granted, radiographs of Lucy's sinus region and upper jaw, would be extremely difficult if possible at all, and the sinuses are beyond the reach of an endoscope. However, as part of their routine, the keepers regularly ask Lucy to open her mouth. As this tooth's abnormal position (relative to the other teeth), is obvious even to viewers of a You Tube video of her entertaining the crowds, <http://www.youtube.com/watch?v=wNNm2PwR9s0>, it is difficult to imagine this problem tooth would be missed for several years. Note this video was posted in November of 2007, but likely shot much earlier that year as the trees were still green. When asked how the link between the tooth and the respiratory problem was made, Dr. Ness is in contact with other zoos whose elephants are experiencing similar issues, and in fact knows of another Zoo elephant whose clinical signs and signalment (species/age/gender...) are almost identical to Lucy's.

The possibility still exists, however, that the two problems, respiratory and dental, are not linked. Firstly, routine diagnostic tools cannot accommodate Lucy's massive size; therefore the link is still speculative. Secondly, there is a 4-year time gap that the onset of respiratory signs, and documentation of an abnormal tooth. Thirdly, lower respiratory infections were documented, namely a Streptococcal pneumonia diagnosed in July 2006, and, an organism known to cause a severe pneumonia in cattle (shipping fever), was cultured from Lucy's thick nasal discharge in November 2006. Although systemic antibiotics were administered for 5 days in 2006, it is unlikely that pneumonia would resolve completely in that short timeframe. (In November, antibiotics were discussed on two entries, but no dose or administration was ever recorded).

The author asked if a chronic ongoing respiratory infection has been considered, but Dr. Ness contends that her blood tests do not support infection. On the results of the July 2008 sample, the pathologist commented “ *(although) no normal's exist for this species in the lab I am concerned re inflammation, (and recommend) electrophoresis.* ” Indicators of chronic inflammatory response are non-specific, meaning they only indicate

inflammation is present but cannot pinpoint the cause. As a chronic respiratory infection, like tuberculosis, can incite a chronic inflammatory response in the body, a search for a definitive cause of Lucy's chronic respiratory disease, is warranted.

It appears that the Zoo has not strongly considered Tuberculosis (TB) as a cause of Lucy's chronic respiratory signs, given their level of TB testing does not even comply with minimal standards, and the fact that they encourage children to be in Lucy's enclosure. Although respiratory signs are generally absent with a Tuberculosis infection, labored breathing and expulsion of mucous from the trunk, have been described. Lameness has also been reported in mycobacterial infections (Lacasse and others 2007).

The National Tuberculosis Working Group for Zoo and Wildlife Species has been monitoring TB in elephants since 1996. The original Guidelines for the Control of Tuberculosis in Elephants set up by the United States Animal Health Association (USAHA) Elephant Tuberculosis Committee, were released in 1997 and modified in 2000, 2003 and 2008. The Guidelines include recommendations for the testing, treatment, and surveillance of TB in elephants, and revised as new information becomes available. These are the specific guidelines generally followed by AZA Zoos.

Until 2008, the gold standard for tuberculosis testing was annual cultures obtained from trunk washes following the "triple sample method." This method consists of obtaining three samples from the trunk within ± 30 days of the established annual test date. Samples are to be obtained on at least three separate days preferably within a seven-day time period. It is important to note that laboratory reports that do not provide a definitive result because of contamination, bacterial overgrowth or other causes, are considered invalid. Additional samples should be collected and resubmitted to replace those reported as contaminated. As well, an elephant is considered "untested" if it has not had three trunk washes obtained by the method outlined in this protocol, within a 12-month period or, if fewer than three valid culture results are obtained.

The disadvantage of trunk wash cultures, is that the bacteria is only shed periodically,

resulting in many false negatives. One of the significant changes incorporated into the 2008 Guidelines, is the recommendation that all captive elephants should be tested annually by culture **and by blood with the Elephant TB STAT- PAK® Assay**. This recommendation is based on studies that suggested that early infection can be detected in the blood by these assays months to years prior to a positive trunk wash culture result (Miller 2007). Elephants testing positive on Elephant TB STAT-PAK® Assay, would then need to have the confirmatory MultiAntigen Print ImmunoAssay (MAPIATM) run.

Dr. Ness told the author that he was aware of the Elephant Stat-Pak test, and was very anxious to use it. He claimed however, that the test was not currently available to Canadian Zoos, as it has not received FDA approval. And, he added, shipping blood across the border would be extremely difficult because of Lucy's Cites I status. As such, he said that they were using trunk washes, which is currently the gold standard in TB testing. *When the author contacted the local IDEXX laboratory used by the Zoo, they stated that they would have no problems shipping blood to a USDA lab for an Elephant Stat-Pak test, and have done it before.*

As of January 12, 2009, Lucy's records only document TB tests being performed in March 2003, November 2004 and November 2005. Of the results obtained on these batches, almost all of them were reported as "inconclusive tests due to overgrowth". As well, there were no records of additional submissions to make up for the invalid tests. Therefore, based on even the oldest guidelines for tuberculosis testing in elephants, Lucy would be classified as an *untested* elephant.

As elephants from Asia at a high risk for this disease, one would hope that Lucy was tested for Tuberculosis upon arrival at the Zoo in 1976 - however that could not be confirmed from the records.

Chronic tuberculosis (TB), when present, has an extremely poor prognosis in elephants. If Lucy were found to be suffering from TB, it may compromise her chances of being moved across the border. Although treating elephants for TB is possible, it is not always

feasible. The course of treatment is over an entire year, the drug costs are exorbitant, quarantine measures would need to be enacted, and treatment is associated with a high risk of adverse reactions. Sadly, euthanasia is often the “treatment of choice”.

In light of the serious implications a TB infection would have on not only Lucy, but her handlers, and the public, it is incomprehensible why the Zoo has not complied (according to the records released), with even the minimal requirement of annual Tuberculosis testing nor seen the need of testing even more frequently given the years of respiratory symptoms, without a confirmed diagnosis. It behooves the Zoo to rule out this devastating disease, for everyone’s sake, as soon as possible, and as definitively as possible.

Upon a review of Lucy’s medical records, it doesn’t take a medical degree to discern that she has suffered with significant, and serious health issues over a considerable period of time. As such, Lucy’s quality of life at the Zoo can be considered compromised.

However, this conclusion is not one shared by Zoo representatives. To illustrate this point, consider this entry in Lucy’s medical record, presumably entered by Dr. Jones, on 22/11/05, which reads more like a press release:

“This elephant has ongoing health concerns which are generally considered normal for housed elephants. Foot problems i.e.: toe cracks and abscesses have been under care for several years now and will likely continue to be a lifelong care issue for her. This becomes primarily a routine daily maintenance issue handled capably by her keepers. She was diagnosed with at an early age with Rheumatoid arthritis and this problem flares up occasionally. Most recently a chronic respiratory ailment has caused some concern and is also being controlled by medication. Ongoing diagnostic tests are being performed to determine the exact nature. Both elephants at the Valley Zoo are healthy (with minor concerns) appear happy and are being cared for with the utmost concern by the keeping staff.”

Firstly, illnesses, like abscesses, arthritis, and chronic respiratory disease, cannot be considered “normal” for any living being.

Secondly, by stating that these chronic conditions (i.e. toe cracks, abscesses, arthritis) are “normal for housed elephants”, acknowledges that the conditions of confinement are at the root of Lucy’s chronic diseases.

Thirdly, they speak of her lifelong “rheumatoid arthritis” that “flares up occasionally”. “*Rheumatoid*” is a very specific form of arthritis, yet it is not clear how they came up with that diagnosis, as no diagnostics beyond radiographs of her carpus (wrist) were mentioned. This is important, because true “rheumatoid” arthritis can respond well to a simple antibiotic treatment saving Lucy a lot of grief, and therefore a diagnosis worth pursuing all the way if it were suspected. When asked how they came up with the diagnosis of rheumatoid arthritis, Dr. Ness replied, “*Who said it was “rheumatoid” arthritis? As far as I am concerned, Lucy has just plain, nonspecific arthritis.*” Beyond “rheumatoid arthritis” written in Lucy’s own health record, the media has also repeatedly made reference to this.

In 2008, Zoocheck Canada sent a letter to the Zoo offering to fly in a group of expert veterinarians, at no cost, to examine Lucy and deal with any medical issues. At that time, there was no mention of wanting Lucy moved, only the desire to help reduce her suffering by assessing and treating her medical issues. The specific veterinarians chosen could be mutually agree upon by both Zoocheck Canada and the Zoo. The Zoo never responded to this offer, and then claimed in a media interview that they had never received the letter. Subsequently, the same offer was hand-delivered to the Zoo, and still the Zoo did not respond. Carol Buckley of TES then called to again propose the same offer, to which Dean Treichel replied, “No, thanks”.

Bob Barker subsequently got involved, he called Councilor Linda Sloan, and asked if she would allow Ed Steward, director of PAWS, the Performing Animal Welfare Society, and their zoo veterinarian, Dr. Mel Richardson to examine Lucy. The councilor

reportedly agreed, and instructed Mr. Barker to have Mr. Stewart call the Director of the Valley Zoo, Denise Prefontaine, to organize the visit. When Mr. Stewart called Denise, she told him that Lucy can barely breathe when she gets stressed, and that he should call before he came up for a visit. Although Dr. Mel Richardson's participation was not mentioned specifically during the follow-up talks between Ms. Prefontaine and Mr. Stewart, it was part of the Mr. Barker's initial conversation with Linda Sloan. When Mr. Barker talked to the media about his upcoming visit with his veterinarian, Ms. Prefontaine denied the offer, and said they would not allow anyone to examine Lucy. Her position was reiterated in a voicemail from Ms. Prefontaine to Julie Woodyer of Zoocheck, and again spelled out in a letter sent to Ms. Woodyer a few days later.

When it was clear the Zoo would not facilitate an examination, Ed Steward and Dr. Mel Richardson signed up for the "Behind the Scenes" workshop at the Zoo in early March 2009, to visit merely as members of the public. After all, Linda Sloan said during a CTV interview late February, that they *"would be honored to have Bob Barker visit"* as the Zoo *"is a public facility, and open to everyone."* The day after signing up for the workshop, the Zoo canceled both the March 7th and March 21st workshops. The Zoo told people who had signed up for the workshop that they had been cancelled because of Lucy's health, but Dean Treichel was later quoted in the Journal (Mar 10, 2009) saying *"we cancelled it because of the tone of some e-mails we've received. They weren't necessarily open threats. But this is a very controversial subject."* This protectionist response to an offer of free expert help, begs the question, "what exactly is the Zoo hiding? If the Zoo contends that she is a healthy, well-adjusted elephant, it could only work in their favor to have a panel of experts agree with them.

The Zoo's modus operandi was again evident when Dr. Ness invited the author for a lunch, followed by a visit with Lucy. The lunch was called to address his concern over another veterinarian offering a second opinion regarding a patient in his care, namely Lucy. At the conclusion of the lunch, he said that he was sorry that he couldn't change the author's mind, and then he reneged on the visit with Lucy.

When asked by the author why the Zoo was so reticent to receive outside help, Dr. Ness said the Zoo already has plenty of expert advice between phone consultations with their experts, and consults with other zoos. He also pointed to the experience he has received this past year both on-the-job, and that gleaned from conferences, workshops, and networking with people in the industry, as significant.

Firstly, human physicians specialize in only one species. It would be safe to say that even after decades in practice, few if any physicians, would admit to knowing all there is about human medicine and surgery. For veterinarians, this gap in knowledge is monumental, especially when one veterinarian must deal with the 100 different species at the Valley Zoo, each with their unique anatomy, physiology, radiologic appearances, and response to pharmaceuticals. Although remote consultations with industry professionals are helpful, they pale in comparison with the amount that can be learned from a hands-on evaluation, and behavioral observation, by one or more seasoned elephant experts. A panel of experts would indeed provide the most objective of evaluations. Multiple years of combined experience would certainly trump a first year education in Zoo Medicine

The Valley Zoo is engaged in a typical reactive medical management model of care, when what is needed, is a more holistic, proactive medical regime. Elephant sanctuaries engage diverse teams of professional health care providers, to provide unique integrative healthcare programs for their elephants. Dr. Susan Mikota, heads up the elephant health team at the Tennessee Elephant Sanctuary. Dr. Mikota is the co-founder and Director of Veterinary Programs & Research for Elephant Care International, member of the Asian Elephant Specialist Group, author of a book on elephant healthcare the first elephant formulary, creator of the world's largest elephant bibliographic database on elephant healthcare, and recipient of a Guggenheim Fellowship for her work with Sumatran elephants.

Recently, Julie Woodyer, Campaigns Director for Zoocheck Canada, indicated that the organization is seeking legal council to advise about a possible legal action to allow an arms-length veterinarian examination of Lucy because they feel that the medical records

do not support the statements made by the zoo, and the zoo would be required by law to move Lucy if it was determined it was safe to move her.

ARGUMENT 8: Lucy has too many health issues that preclude her from being transported safely.

On the one hand, zoo officials claim that Lucy is fine where she is. Valley Zoo veterinarian Dr. Milton Ness claims that, *“aside from her tooth problem and her arthritis, she’s a very healthy elephant”*. When the author told Dr. Ness that she wished she could see for herself how Lucy was breathing, Dr. Ness assured her that *“Lucy breathes just fine.”*

At the same time however, Supervisor, Dean Treichel warns that, *“Lucy’s veterinarian and industry professionals believe any type of move would have severe consequences for her.* (www.valleyzoo.ca)

Firstly, one cannot legitimately be deemed “healthy” in light of being obese, *and* suffering from a chronic debilitating disease like arthritis in multiple joints, *and* having an impacted tooth causing inappetance and colic, *and* a chronic respiratory problem that can be seriously aggravated by any stress to the point of being life-threatening.

According to Dr. Ness, *“Going into a multi-elephant environment in my mind is going to create more stress and with this respiratory problem, I’m very concerned that that would create a deteriorating health cycle.”* It is evident that Lucy is already in physiological and psychological distress, which arguably has been caused by the conditions imposed by captivity. As well, as the records of her chronic conditions so clearly document, Lucy has been in a deteriorating health cycle for quite some time.

Dr. Ness stressed the fact that because of Lucy’s respiratory condition, they are bound by the Animal Protection Act Regulations Section 10 (1), which reads, *“ No person shall load*

or transport animals that, by reason of infirmity, illness, injury, fatigue or any other cause, would suffer unduly during transport". Former Zoo veterinarian, Dr. Robert Jones, signed a document in October 2007, claiming that it would be detrimental if not fatal to her health to move Lucy. Based on this document, The Animal Protection Department concluded in November 2007, that it would not be in Lucy's best interest not to be transported.

This same Animal Protection Act also states in Section (2) that an animal is defined to be to be in distress if they are "*(a) deprived of adequate shelter, ventilation, space, food, water or veterinary care or reasonable protection from injurious heat or cold, (b) injured, sick, in pain or suffering, or (c) abused or subjected to undue hardship, privation or neglect.*" And, Section 2(1) states "*No person shall cause or permit an animal of which the person is the owner or the person in charge to be or continue to be in distress.*" It is felt that if the Animal Protection Act serves as a solid argument for the Zoo not to ship Lucy, then that same Act can be used as a solid argument for allowing Lucy to be examined by a panel of elephant experts, to address the serious conditions that she still suffers with to this day, and that preclude her from transport.

In addition, Dr. Ness contends that Lucy hates being transported, having had a terrible time back in 1987. He claims that Lucy still remembers the ordeal that happened over 20 years ago, as she became very agitated when she saw the truck that came to load up Samantha. It should be noted that this traumatic experience is not noted in Lucy's medical records, and that it did not prevent the Zoo from transporting her again in 1988. It is not clear how Zoos go about preparing their elephants for transport. Both PAWS and The Elephant Sanctuary (TES) have proven systems of conditioning elephants to the moving process prior to departure.

As well, TES and PAWS have an amazing success rate transporting and rehabilitating circus and zoo elephants, many of which were gravely ill. Their staff and their veterinarians are very experienced in elephant transport, and take the process of

transporting elephants extremely seriously. As well, TES would provide a specially equipped truck and crate for moving elephants, well ahead of time.

Ed Steward, director of PAWS Sanctuary, has been involved in many elephant moves as well, including Maggie, from the Alaskan Zoo. *“The elephant is an unusual and very intelligent animal. As for putting them on a trailer, they can be prepared for it, conditioned for it, like any animal.”*

Circus elephants, which spend months on the road, are fine examples of how well elephants can adapt to transportation on trucks. The Zoos also regularly transport elephants between Zoos for breeding loans, as was done with Samantha.

Carol Buckley, The Elephant Sanctuary’s founder, said that of the 23 elephants her team has rescued since 1995, none have died in transport, and some were much sicker than Lucy. *“We run into these tactics all the time. First (zoos) say the elephant is not healthy enough to travel, and that it will die in travel,”* she said. *“All of those efforts to deny an elephant to come to the sanctuary have never proven true.”*

By the time they finally agreed to ship Alaska Zoo’s elephant Maggie, she had lost 1000 lbs (454 kg), and she collapsed twice in a four days period, unable to lift herself off the concrete floor of her 1,600-foot enclosure. During those ordeals, the first one lasting almost 19 hours, two dozen firefighters used straps and a winch tied to a two truck to lift the 4-ton Maggie. Many feared for her but she was successfully moved, and she is now fully integrated into an elephant herd at the PAWS sanctuary in California.

Zoo representatives have said, that *“Lucy has some health challenges that make her stay in Edmonton, with caregivers who know her well and love her, that much more crucial.”*

It can be argued that Lucy’s health challenges have been allowed to become critical despite the best intentions of her medical attendants and keepers. As well, it can be surmised that it is *because Lucy stays in Edmonton*, that she suffers with these chronic conditions in the first place. As they say, sometimes love is not enough. If the option is

available, and it is, Lucy deserves a hands-on evaluation by elephant medical experts, whether a move is warranted at this time, or not.

ARGUMENT No. 9: Lucy is antisocial.

It is not clear whether the Zoo is claiming that Lucy is antisocial with other elephants, or with people. With respect to other elephants, Dr. Ness will point out that Lucy did not get along with Samantha, who she was with for over 20 years. Zoocheck's study observed that Lucy was indifferent to Samantha, but not aggressive. It should be noted that Lucy and Samantha are two different species of elephant, and the area they were expected to interact in was, according to one elephant veterinarian, too small for Lucy, let alone two elephants.

The Zoo Master Plan's vision for their Africa exhibit describes, "*the Zoo's herd of four elephants is dominated by its matriarch and her female offspring*." It is interesting to note, that their plans include a herd, yet at the same time claim that Lucy is unsocial.

As far as Lucy interacting with people, the Zoo must trust Lucy, as they regularly put children in the enclosure with her. Of their two elephants, Samantha, required "protective contact", which meant that she could not be handled without barriers. Lucy on the other hand is easily handled. Several You Tube videos can attest to the fact that Lucy can be led quietly and calmly around the Zoo grounds alongside her keepers.

Dr. Ness claimed, "*There are some elephants out there that do best in a solitary environment because they've imprinted and bonded with their human keepers and Lucy is one that I know has done that,*" Just because elephants can survive in isolation from other elephants; and can bond to people, does not mean that that is Lucy's choice, or, her preference. And, it certainly does not imply that given the chance, bonded captive elephants would not thrive in a herd situation, in a more natural setting for which they have uniquely evolved. At The Elephant Sanctuary in Hohenwald, Tennessee, Lucy

would have the opportunity to interact with about 17 former zoo or circus elephants that live on the sanctuary's 1,100 hectares of hills and forests. TES has a system in place for socializing elephants with each other, and the space available for them to do it in. *"When she arrives, she has the opportunity to either immediately enter in with the herd or she can take her time and slowly get to know the other elephants,"* says director Carol Buckley. *"Each elephant is an individual and I will tell you of the 25 elephants we've rescued over the last 14 years, not one has been shy about making friends with other elephants. So we are very confident ... Lucy would do the same thing and make friends immediately."*

The PAWS sanctuary in California has also offered to move and house Lucy at their sanctuary. Lulu, the neurotic elephant from the San Francisco Zoo had a huge fear of other elephants when she arrived at PAWS sanctuary. Although she was a challenge, the gradual introductions, and the social structure provided by the herd made all the difference. Once an elephant is moved to PAWS, extra keeping staff is on duty twenty-four hours a day to monitor acclimation to environment and socialization with the other elephants. Ed Stewart, director of PAWS Sanctuary, was involved with moving several elephants in the past, including Maggie, from the Alaskan Zoo. "The elephant is an unusual and very intelligent animal. In captivity, they go through a lot that is unnatural for them. But Maggie hadn't forgotten what it was like to be outdoors, with other elephants." Interestingly, Maggie too, had been labeled "anti-social with other elephants" by the Alaska Zoo, when they were making arguments about why she could not be moved. For a video that documents Maggie's transport from Alaska to California and her subsequent successful integration into the herd, see http://pawsweb.org/videos/maggies_migration.html

Female elephants have the most complex and extensive social network of any mammal studied, other than primates (which includes humans). Similarly, elephants are the only species other than humans, primates, and dolphins, who have the advanced concept of self-recognition. As such, the results of a recent study done in chimpanzees, which examined stress and coping after long-term isolation in the rehabilitation of research

chimpanzees, may have relevance in the discussion of Lucy's adaptability after prolonged isolation from her own kind.

This 2007 study, examined the permanent retirement of chimpanzees from biomedical research, and resocialization after long-term social isolation. Their aim was to investigate the extent that behavioral and endocrine measures of stress, in deprived laboratory chimpanzees, could be improved by a more species-typical social life style.

“Personality in terms of novelty responses, social dominance after resocialization and hormonal stress susceptibility were affected by the onset of maternal separation of infant chimpanzees and duration of deprivation. Chimpanzees, who were separated from their mothers at a younger age and kept in isolation for more years appeared to be more timid personalities, less socially active, less dominant and more susceptible to stress, as compared to chimpanzees with a less severe deprivation history. However, permanent retirement from biomedical research in combination with therapeutic resocialization maximizing chimpanzees' situation control resulted in reduced cortisol metabolite levels.

Our results indicate that chimpanzees can recover from severe social deprivation, and may experience resocialization as less stressful than solitary housing.” (Reimers, M.

Schwarzenberger, F. Preuschoft, S. Institution: Department of Natural Sciences, Institute of Biochemistry, University of Veterinary Medicine, Veterinaryplatz 1, 1210 Vienna, Austria. Source: Hormones and Behavior 51(3): 428-35 2007 Mar.)

ARGUMENT NO. 10: Without Lucy, they will be hampered in their efforts to educate the public about elephants.

When the Zoo describes “the Zoo’s herd of four elephants is dominated by its matriarch and her female offspring” in their vision for their Africa Exhibit, it is assumed that they are including their elephants, Lucy, Samantha, and then Samantha’s baby. Lucy is an Asian elephant, and Samantha an African elephant, and these two distinct elephant species would not be found together in nature. By including Lucy in an “African” exhibit,

and by adding her into a mixed species herd, the Zoo would be misleading the very public they claim to want to educate.

Regardless, the Master Plan is still years away from becoming a reality, and Lucy remains alone indefinitely. During elephant expert Winnie Kiiru's investigation into captive elephants in Canada, she observed the following, *"Lucy walked into the barn and then began rocking behavior indicative of stress and/or boredom. She repeated this for about 10 minutes (when) a family with some young children stopped by briefly to look at her. The mother explained that Lucy was 'dancing'. Just then Lucy's trunk touched a ball that had been lying on the ground next to her and the young mother explained that she was now 'playing ball'. The children were delighted. They stood there for a few more minutes then walked away."* She went on to say that, *"this kind of misinformed interpretation of elephant behavior is typical in a zoo setting due to elephants exhibiting aberrant behaviors and living in unnatural cold climate settings, and yet, they still advocate keeping elephants as a flagship species at the zoo."*

If the Zoo needs feedback on the message they are sending to the public regarding wild animals, they need only read the comments of Zoo and conservation enthusiasts, on sites like "Zoo Chat". (<http://www.zoochat.com/223/edmonton-valley-zoo-15475/>). The following are examples:

"Lucy the elephant is one of the saddest stories I've ever read about, and at least she had a fellow elephant with her for most of her captive life. It's mindboggling to see that the zoo is still debating over what to do with her, when TES is willing to pay all the shipping costs and provide her with a better life. In the winter Lucy must spend at least 75% of her time in the tiny barn, rocking back and forth as she battles insanity. It would be immensely depressing for anyone to see such abnormal behavior". (08-06-2008)

Lucy the elephant and the sea lions are truly a depressing sight, and some of their monkey enclosures are tiny...but their monkeys, at least, have contact with members of their own kind". (07-06-2008)

“I think the Edmonton Valley Zoo is asking too much at this time by trying to get Destination Africa money to exhibit controversial animals. They need to build the confidence of the community and sponsors that this money will be put to good use. When these types of exhibits open they should remind visitors how good the rest of the Zoo is, not how bad all the other exhibits are.

For now the Valley Zoo should aim for more Makira Outpost type exhibits, and less elephant and polar bear type exhibits. During this period they should ship out those demanding animals that are wrecking their reputation, if at all possible. Lucy's respiratory problems may be aggravated by a move, but surely her foot problems that until recently were her biggest health concern would be improved by being shipped off to a place like the AZA National Elephant Center (yet to be constructed)”. (31-03-2008)

“Zoos that house elephants with no companions, nothing to do and nowhere to go, (claim they) educate us - but what we see are exhibits of animal abuse”. writes Joyce Poole, who has a Ph.D. from Cambridge University in elephant behavior, and has studied the social behavior and communication of elephants for over thirty years. She goes on to say, “In an ideal world there would be no elephants held captive in zoos. Live elephants would be replaced by advanced, interactive exhibits that introduce the visitor to how elephants really live, and explain why they shouldn't be kept in confinement. Multimedia theaters would allow the public to view documentary films and state-of-the-art video-links to view wild elephants in their natural environment. High-end virtual educational exhibits could connect the public to the lives of wild elephants and their conservation. By partnering with a field study in such an endeavor, zoos would be able to meet educational and conservation goals.

ARGUMENT No. 11: The Zoo suggests that animal welfare advocates are emotional, often turning their focus on zoos. The Zoo wants to be clear that they makes decisions based on science, and what is best for the health and wellbeing of the animal, not on emotion.

We have already discussed how finances, not science, appears to be the Zoo primary motivator in decision-making. It is also apparent that Lucy's health has not, and will not, affect their decision-making process. The Zoo is adhering to their Master Plan, which on Page 36 of the plan, describes the only two options they will consider when it comes to Lucy:

“Option 1: *Keep Lucy comfortable in existing facility for the rest of her life ... by herself or with a non-elephant companion. Be ready to address CAZA, AZA and PETA issues in a pro-active manner.*

or,

Option 2: *Keep Lucy comfortable in existing facility for the rest of her life and investigate bringing in another older Asian elephant as a companion.”*

Firstly, with respect to **Option 1:** The Zoo outright ignores the science acknowledged, and incorporated by accredited Zoo regulatory bodies, which recognize a female elephant's basic need to socialize with her own kind in a herd context. The Zoo even acknowledges that their actions contravene CAZA and AZA's Standards. They also understand that their proposed actions may raise the ire of animal advocates and strategize on ways to “handle them”.

With respect to **Option 2:**

Firstly, the fact that they would investigate bringing in another Asian elephant implies that they know Lucy is not “anti-social”.

Secondly, there is no way to make Lucy comfortable in her existing facility. Treatment for her captivity-induced health issues of arthritis, chronic intermittent infections, and obesity are ineffective. As well, they do not have the expertise onboard to deal with her

chronic respiratory disease, and her extremely painful impacted tooth, effectively. They have not definitively established the tooth problem as the cause of her chronic respiratory condition, and, they have not run the appropriate tests in the appropriate manner, to test for tuberculosis. And lastly, they continue to ignore the abundant scientific study and observational evidence that exists supporting the critical elements of elephant natural history, that same science that they claim to base their decisions on. This science clearly demonstrates the social role played by the cow/calf herd, the powerful bonds between herd members, the critical role played by the herd in the elephants' daily movement through huge spaces for feeding, resource exploitation, exploration and social networking (Sukumar 2003), and their use of 70 to 80 percent of their time, foraging and browsing. It is clear that these critical elements cannot be duplicated at The Edmonton Valley Zoo. The science also supports that the close confinement of a highly social and mobile species, leads to debilitating diseases and a premature death. It is also evident that "their animal's health and well-being", is not the primary motivator in their decision-making process, as they maintain.

Time plays an important role in this issue, as there is a danger in waiting too long. Chronic arthritis, chronic respiratory disease, and/or chronic dental problems, can reach a point of no return. Sadly, euthanasia becomes the most humane option in chronic disease states where the quality of life is considered poor, the side effects of treatment are worse than the disease, and/or where there is little to no chance of improvement.

Gita, the Los Angeles Zoo's 48-year-old Asian elephant, was found dead in her enclosure in June 2006. Nine months before, city officials were considering the since-approved \$39 million plan to improve the L.A. Zoo's elephant exhibit, when veterinarian Dr. Mel Richardson testified, "I would not be surprised if Gita was dead in six months". Gita, an 8,000-pound (3636 kg) pachyderm, had also been getting her exercise on early-morning strolls before the zoo opened. A California-based organization, In Defense of Animals, had been fighting to have Gita moved to an elephant sanctuary. Zoo officials decided against moving her, opting instead to perform foot surgery to treat her arthritis. While Zoo officials optimistically declared that Gita was on her way to a full recovery, Dr. Richardson maintained that Gita's condition was dire, and that she was in pain daily.

Richardson, former veterinarian for the San Antonio and Woodland Park zoos, had not examined Gita, but had reviewed hundreds of pages of her medical records secured under the California open records law.

The Alaska Zoo deliberated for years on whether or not to move their African elephant Maggie, and even entertained expert Dr. Oosterhuis' half-million dollar idea to build a colossal treadmill, that Maggie never accepted. In the meantime, Maggie's condition deteriorated to the point where she had lost 1000 lbs (454 kg), and had collapsed twice during a four-day period, each time requiring emergency assistance from fire fighters to get her up.

In April 2003, the San Diego Wild Animal Park sent their aging elephants Peaches, Wankie (33), and Tatima to the Lincoln Park Zoo in Chicago, to make room for new, younger elephants taken from the wilds of Africa. These three older elephants had lived together in San Diego for 33 years, since their capture in Africa as babies. In San Diego, they lived outdoors year-round in a naturalized setting. However, in Chicago, their new surroundings were bleak and barren, and they were confined for extended periods in small concrete enclosures because of the cold climate. The toll of the stress, and ensuing ill health were evident almost immediately, prompting multiple petitions to be forwarded to the Lincoln Park Zoo Director, the members of the zoo board, and the Mayor of Chicago. In addition, offers were extended from both The Elephant Sanctuary and The Performing Animal Welfare Sanctuary to move all three elephants. Despite the controversy, the Lincoln Park Zoo refused to relinquish the elephants. By May 2005, Tatima, Peaches and Wankie were all dead.

SUMMARY

It has been well documented that the leading cause of a premature death in captive elephants are chronic infections (especially of the feet), followed closely by obesity, circulatory issues and chronic stress. All of these health issues can be related directly to inadequately addressing the complex ecological, social, behavioral and physiological

needs of these animals in a captive situation. Lucy's serious health issues are therefore the quintessential reason why she should be moved. Her age, as well as the severity and chronicity of her diseases, command urgency in this action.

The Zoo has also been shown to be violation of several governing regulatory bodies, and industry guidelines with respect to Lucy.

It is also questionable whether The Zoo has taken sufficient measures to rule out Tuberculosis as a cause of her respiratory symptoms. The last recorded trunk was done was in 2005, and although accessible, an adjunctive test with higher sensitivity for this disease, the Elephant Stat-Pak test, has not been run. School children are permitted to go into the elephant enclosure and members of the public are able to touch and feed Lucy. As Tuberculosis is a highly contagious disease known to spread between humans and elephants, it is of paramount importance that the Zoo is vigilant in protecting people, and their animals, from zoonotic diseases.

On CTV, Dean Treichel claimed, “ *all decisions made on animal care are made on the health and well-being of the animals that we are responsible for.*” When asked if he was against moving Lucy to a sanctuary, he said, “ *I am not against moving her, not necessarily to a sanctuary, and that if the time is right... and if it is in her best interest, then yeah, we would have no problems with moving her.* ”

It is now up to the City Council members, and the Zoo's officials, to walk their talk and do the right thing. The world is watching. As Mahatma Gandhi alleged, “*The greatness of a nation and its moral progress can be judged by the way it treats its animals*”.

Should the City of Edmonton drop the ball on this issue, not only Edmontonians, but countless people around the world, may never forgive them, regardless of subsequent effort and investment dollars they inject into the Zoo. If the City of Edmonton continues to dismiss the science, and mounting public pressure, the repercussions may be more costly than they ever envisioned.

The science is clear on what decision is in the best interest of Lucy's health and well being. If City Council and Zoo officials stand by their story that she is a well-adjusted, healthy elephant overall, then they have no "science-based" reason to keep her there. If they contend that she is too sick to be moved, then they have a legal, moral and ethical obligation, to allow her access to the best expertise, with the most advanced diagnostics and treatment available. At the point where Lucy is deemed healthy enough to travel, then Edmonton must let Lucy go. As one Zoonchat member so eloquently said, *we need to love her with open arms*. The Elephant Sanctuary and the PAWS Sanctuary, are offering Lucy the chance to be roaming hundreds of acres alongside other elephants, in a far more suitable climate. In such a setting, Lucy would enjoy enormous physical and mental health benefits, and a longer life expectancy. What a gift that would be to Lucy, to finally get a taste of what it is truly like, to be a female elephant. This sentient, highly intelligent being has given us humans her best, despite being removed from all things natural for her entire life, and suffering endlessly with the consequences. In the end we owe it to Lucy, and we owe it to humanity, to be humane.

"We must fight against the spirit of unconscious cruelty with which we treat the animals. Animals suffer as much as we do. True humanity does not allow us to impose such sufferings on them. It is our duty to make the whole world recognize it. Until we extend our circle of compassion to all living things, humanity will not find peace."

Albert Schweitzer, The Philosophy of Civilization

Contact Information for DR. DEBI ZIMMERANN

P: 1-866-500-5151 F: (780) 662-0044 email: doctordebora@gmail.com