

Toronto Zoo

Evaluation of Options for the Elephant Program

Final Report March 2011

Prepared by
Lord Cultural Resources

In association with
Schultz and Williams

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1. Introduction

This chapter summarizes the background to and purpose of this study as well as the methodology to carry it out.

1.1 Background to and Purpose of the Study

The Toronto Zoo opened to the public in 1974 and currently includes over 500 species and 5,000 animals. Since its opening the Toronto Zoo has always featured African elephants. At its peak the Zoo had eight elephants - seven females and a bull. Until the bull died in 1990 the Toronto Zoo had a successful breeding program. Artificial insemination was considered but was concluded to be too risky given the health-related problems experienced by female elephants of a similar age at other facilities. As a consequence the herd has aged, and within the last five years four elephants at the Zoo have died. The remaining three females are post-reproductive. Two (Toka and Iringa) are 42 years old while Thika is 31. Toronto Zoo staff reported in 2009 that following the death of the matriarch Tara the remaining three elephants do not get along well with each other.

With an average anticipated lifespan of about 40 to 50 years, as estimated by Toronto Zoo staff, it is inevitable that the total number of elephants at the Toronto Zoo will be below the three considered the minimum acceptable standard established by the Association of Zoos and Aquariums (AZA) and the Canadian Association of Zoos and Aquariums (CAZA). And whereas existing elephant facilities at the Toronto Zoo were considered state of the art/science when constructed, the standards have changed over time and are likely to continue to change in the future. Despite recent enhancements such as an interactive training wall for elephants and new signage explaining the plight of elephants in the wild, elephant keepers and other staff at the Toronto Zoo believe that much larger indoor facilities with enhanced features and much larger outdoor spaces are required if the Toronto Zoo is to retain an elephant program. The status quo is thus not deemed to be an acceptable option. Either the Toronto Zoo needs to expand and enhance its elephant program or the program needs to be phased out.

To help the Toronto Zoo Board and senior management make a decision on whether to phase out or expand its elephant program, the Zoo issued a Terms of Reference and Request for Proposals to conduct an independent and objective evaluation of the options. After a competitive bidding process the team of Lord Cultural Resources and Schultz and Williams was selected to conduct the study. Lord Cultural Resources is headquartered in Toronto and has offices in New York, San Francisco, Paris, Mumbai, Beirut and Beijing. It is the world's largest firm specializing in the planning of museums and related cultural institutions. Ted Silberberg conducted the study on behalf of Lord Cultural Resources. He is the firm's Senior Principal responsible for Market and Financial Planning and a Certified Management Consultant with over 30 years experience in the field. Supporting him is Rick Biddle, Vice President of Philadelphia-based Schultz and Williams. Rick is former COO of the Philadelphia Zoo and has provided planning and management consulting advice to over 75 zoos over the past 22 years.

It must be emphasized that neither consultant is an elephant health and welfare expert. Our scope is not to judge the validity of conflicting scientific claims of those who support or oppose elephants or any other animals in captivity. A starting assumption, however, is that the Toronto Zoo has a right to exist and that it needs to weigh the options associated with the elephant program in the context of its own conservation, education, visitor experience and financial objectives. Our role is thus to offer an independent and objective assessment of the pros and cons of the options as we see them based on a review of the data and opinions heard. This leads to focused analyses, conclusions and recommendations which are to be considered as one tool by the Board and senior management of the Toronto Zoo in its decision-making regarding the elephant program.

1.2 Scope of Work and Methodology

The scope of work to conduct this study is as set out in our proposal document dated July 23, 2010. To meet the objectives of the study, the consultants carried out the following tasks:

- Reviewed documents provided or referenced by the Toronto Zoo, Zoocheck Canada¹ and Professor Georgia Mason², including those that support and oppose elephants in captivity. We also reviewed the CLR Design³ plan for new elephant facilities, various internal Toronto Zoo documents, along with AZA and CAZA elephant care standards and manuals, newspaper and magazine articles, websites, etc.

¹ Zoocheck Canada is a national animal protection charity established in 1984 to promote and protect the interests and well-being of wild animals. It has a particular focus on captive wild animal issues and problems and has advocated strongly that elephants should not be among the species at the Toronto Zoo.

² Georgia Mason is Professor of Animal Behaviour and Welfare at the University of Guelph. She has published a variety of articles associated with animals in captivity, including elephant welfare.

³ CLR Design is a Philadelphia-based firm that focuses on zoo design, master plans as well as immersive, experiential exhibits that "respect and challenge animals, provide state-of-the-art management facilities for staff, and enthrall visitors."

- Toured the existing elephant facilities at the Toronto Zoo.
- Conducted internal and external interviews with a variety of persons advocating a phase out of the elephant program at the Toronto Zoo or at zoos in general and those supporting investment in much larger, better quality facilities for elephants. Some persons requested that their comments be kept confidential. We have therefore not identified specific persons interviewed with the exception of those who provided written submissions/emails to support their comments and whose comments are particularly important to require attribution.
- Compiled data and interviewed Directors/Presidents and staff of zoos that had or were planning to phase out their elephant programs or that had or were planning to expand their elephant program.
- Analyzed the data and the opinions heard and applied our judgment and experience to prepare an assessment based on elephant health and welfare, conservation, education, market, cost and other factors.
- Prepared a draft final report and this final report.

Bold, italics throughout are used to highlight key findings, conclusions and recommendations

2. Options for Elephants at the Toronto Zoo

The options for the elephants at the Toronto Zoo are either to phase out the elephant program or to provide much larger and better quality facilities to enable the expansion of the elephant program. The options are discussed further below followed by identification of an important study that has been referred to throughout this document.

2.1 Phase Out of the Elephant Program

If the Toronto Zoo were to phase out of its elephant program the remaining elephants could be relocated to another accredited institution. Relocation could take place after one of the three remaining elephants dies or it could be sooner. An alternative would be for the Toronto Zoo to add other post-reproductive elephants to maintain the minimum standard of three elephants. And while this would be a slower phase out it would be a phase out nonetheless.

2.2 Expansion of the Elephant Program

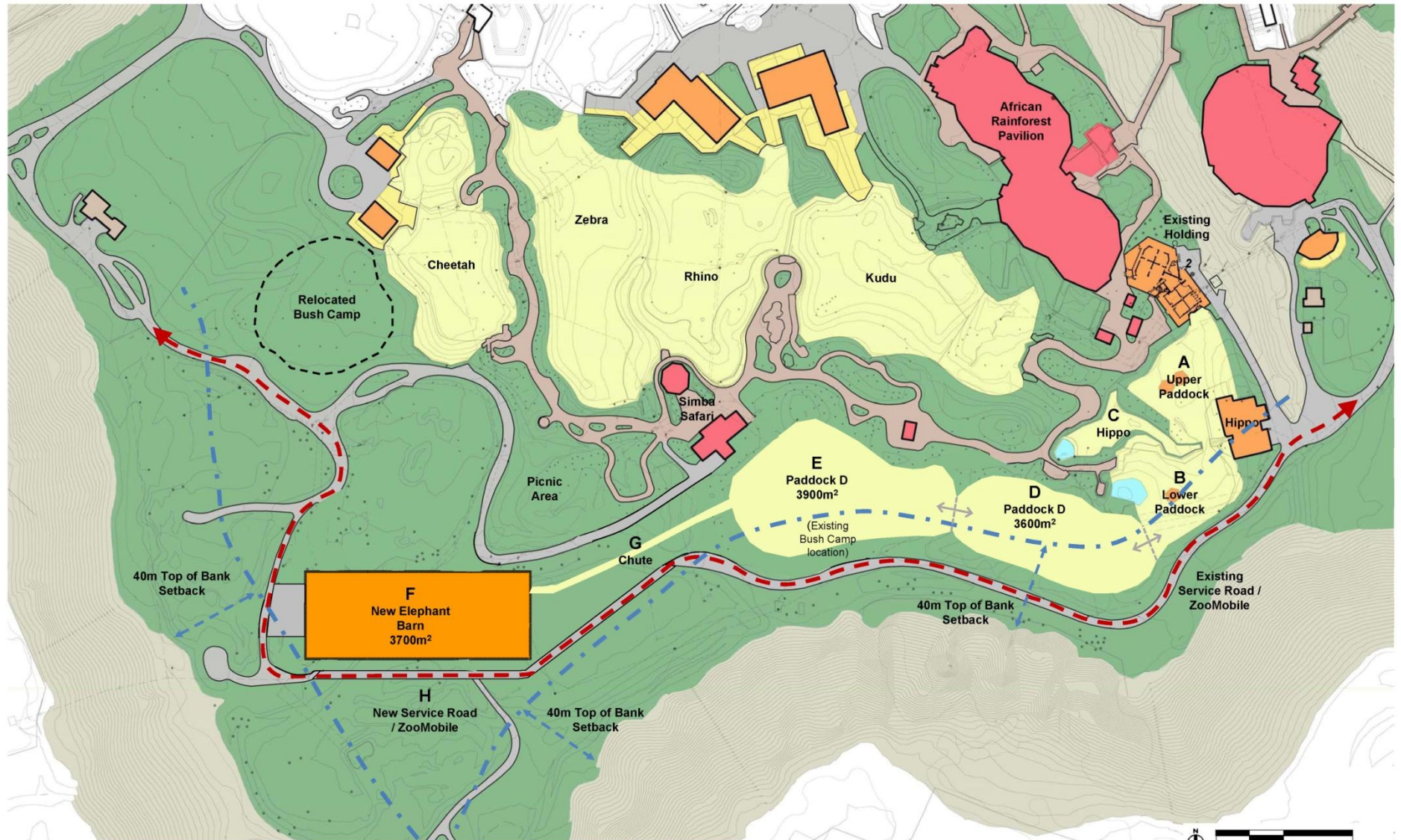
The alternative to phasing out the elephant program is to expand it by acquiring younger elephants and introducing a breeding program. This is possible only by investing in substantially larger and better quality indoor and outdoor facilities for the elephants. An expansion plan developed by Toronto Zoo staff in association with CLR Design in 2010 involves the following features:

- **A new elephant barn** of 3,700 sq. metres (40,300 sq. ft.) that would be the largest elephant holding/winter barn with natural substrate in North America, allowing for much better exercise and socializing during colder weather months. The existing barn is about 920 sq. metres (9,900 sq. ft.), so the proposed new elephant barn is over four times larger. It is to include stall space for adult females and calves and also an 1,100 sq. metre (12,000 sq. ft.) herd room for indoor socializing.

- **Two new outdoor paddocks**, one of 3,600 sq. metres (38,700 sq. ft.) and the other of 3,900 sq. metres (42,300 sq. ft.) that would be additional to the two existing elephant paddocks. The existing outdoor elephant paddocks are 1,566 sq. metres (17,000 sq. ft.) and 1,790 sq. metres (19,500 sq. ft.), respectively, or a combined 0.8 acres. The combined size of the proposed future outdoor paddock space is close to 10,900 sq. metres or about 117,500 sq. ft. of outdoor space. With 43,560 sq. ft. in an acre this indicates about 2.7 acres of outdoor space. In addition, there will be increased walking opportunities for the elephants between the planned new elephant barn and the paddocks, as shown on the following diagram.
- The new paddocks would be connected to the existing paddocks by a transfer chute.
- The existing holding barn could be used for one or more bull elephants in the future.
- The existing Serengeti Bush Camp, which allows for overnight stays, would be relocated.

The separation of the new elephant barn from the existing barn gives the Toronto Zoo the option of retaining its existing elephants during the construction process while developing larger facilities for the new elephants, if that were the course of action selected.

The total capital cost, including allowances for green building technologies, is estimated by CLR Design at about \$16.5 million, in 2010 dollars. Costs for elephant acquisition would be additional.



2.3 IMLS Elephant Study

The AZA standards associated with elephant health and welfare have changed over time and are likely to continue to do. As discussed further in Chapter 4, a variety of scientific/academic studies have suggested that elephants have a much shorter lifespan in captivity than if living in protected areas in the wild because they are subject to captivity-related illnesses. These studies also suggest that elephants should not be subjected to cold weather climates and thus forced to remain indoors for a large part of the winter. Zoo associations and specific zoos have changed their standards for elephant management over the years and have introduced or are planning much larger indoor and outdoor facilities. At the same time zoos have challenged the objectivity and independence of some of the studies, charging that they are conducted by anti-zoo activists and flawed in their methodologies and conclusions.

Very helpful to the debate about elephant health and welfare is that the Institute of Museum and Library Services (IMLS) in the United States recently announced the funding of a 3-year, \$1,224,000 study of all 290 African and Asian elephants at 78 AZA member institutions, including the Toronto Zoo. The study is two-thirds funded by IMLS and one third by the zoos and includes a combined team of zoo and outside professionals. The study title is "Using Science to Understand Zoo Elephant Welfare." Its objective is to use science-based welfare benchmarks to improve elephant management. In particular it is to "understand the relationship between environmental variables and physical and mental health. Using an epidemiological approach, data will be collected on a broad spectrum of input variables, such as enrichment, training, enclosure size, group size, and animal-based outcome variables, such as physiological status, social behavior, and keeper-animal relationships. Detailed behavioural data will also be collected at a subsample of zoos. Variables have been selected to assess both negative and positive welfare. This study will produce the first comprehensive measurements of elephant well-being and determine management changes to improve welfare."⁴

The rationale for the study is expressed as follows:

"AZA-accredited zoos and aquariums value superior animal husbandry and strive to ensure that the physical, psychological and social needs of animals are addressed. However the question of whether zoos can adequately provide for the needs of elephants has been a topic of public discussion and received significant media attention. Critics and zoo professionals alike, focusing primarily on the negative aspects of animal welfare, have discussed at length whether and/or how zoos are falling short with elephants. In response, 63% of AZA [elephant holding] zoos report they are planning to significantly upgrade or completely rebuild their exhibits. While this is an encouraging trend, it is occurring in the absence of any comprehensive scientific assessment of the welfare status of zoo elephants, or an understanding of the housing conditions that impact it, including those that most enhance elephants' lives.

⁴ http://www.imls.gov/news/2010/092710_list.shtm

Despite a number of attempts to measure factors related to elephant well-being, no study to date has carried out a comprehensive welfare assessment of zoo elephants with a sufficiently large sample size to have the statistical power to address issues of management, housing and husbandry.”⁵

The research began in January 2011 and is to be completed by the end of 2012. Analysis and results will be developed with the final report available in late 2013. Interviews with Directors/Presidents and staff of other zoos, discussed in Chapter 3 of this report, indicate that among those expanding their elephant programs, some are proceeding with their planned elephant improvements. Others are waiting for the IMLS study results and determining whether and how best to move forward with their respective elephant programs based on its findings and recommendations.

⁵ IMLS Elephant Welfare Project Research Proposal, application for grant to IMLS led by Honolulu Zoo.

3. Experience of Other Zoos With Respect to an Elephant Program

This chapter profiles the motivations and impacts that AZA zoos have experienced in phasing out of their respective elephant programs as well as the expectations of AZA zoos that have or are planning to implement facility and other improvements to their elephant programs.

In completing our research and analysis, we interviewed Zoo Directors/Presidents in the United States and Canada and/or senior staff members and elephant experts of leading AZA zoos. This included representatives of the AZA zoos that have phased out of elephants, at least in the short-term, zoos expanding their elephant program in 2011 and early 2012, and members of The National Elephant Center.

3.1 Overview of Findings

Among the major findings of the interviews and research are the following points:

- Zoos that decide that they are going to keep elephants within their collections recognize that elephants are a major investment – always will be, and probably more so in the future given the likelihood of changed standards following publication of the IMLS study.
- Substantially more AZA zoos in North America are planning and implementing expansion projects for their elephant programs than have or are planning to phase out of elephants. There are no known AZA zoos planning a phase out of elephants in 2011 but some are weighing their options.
- Zoos that have phased out of elephants have not experienced any negative financial and/or visitation outcomes.
- Zoo Directors/Presidents agree that the IMLS elephant study will be an important management tool based on “concrete data that will allow us all to strengthen our elephant programs including care and welfare.” This will help to solidify the AZA standards and guidelines. Some Directors expressed that waiting for the IMLS findings to be finalized in late 2013 is a very prudent strategy to embrace. Others are committed to proceeding with already planned and funded enhancements. As one stated, “we need to build our new or renovated facilities to exceed current guidelines and be in a position to add flexibility in the design to accommodate future changes or enhancements.”

- Zoo Directors/Presidents agree that weather or climate (northern zoos vs. southern zoos) is not the critical factor in determining an institution's commitment to elephants – it is just one of a number of criteria that needs to be considered. They noted that African elephants in the wild live successfully in climates that are often as cold as Toronto – specifically elephants can be found in Kruger National Park in South Africa where temperatures are below freezing many evenings and in East Africa on the foothills of Mount Kenya and Mount Kilimanjaro.
- Zoo Directors/Presidents identified the issue of financial priorities and the availability of funds as the most important factor in assessing the future of elephants within zoos. Many echoed the viewpoint that “if a zoo is not willing or able to commit the required level of (financial) resources for exhibiting and maintaining elephants, they should consider phasing out of elephants.”

3.2 Zoos that Phased Out Elephants – Either Permanently or on a Temporary Basis

Below is a summary of the AZA zoos that have phased out of elephants during the past several years based on interviews/conversations with representatives of the respective zoos. It must be noted that a number of the AZA zoos have not made “permanent decisions” with regard to elephants – they are short-term decisions based largely on current financial challenges – leaving open future possibilities or options with no specific timelines:

- In 2004 the **San Francisco Zoo** sent its two elephants to a sanctuary. Currently, the Zoo has no plans to exhibit elephants at the Zoo, primarily due to financial considerations and new priorities.
- The **Detroit Zoo** in 2004 announced it would be closing its elephant exhibit and in 2005 relocated its two Asian elephants to the PAWS sanctuary in California. A number of factors were cited for the decision to phase out of elephants, including both the well-being of the two aging elephants⁶ and the financial considerations. Noteworthy is that the decision was made at the time the Detroit Zoo was a city-managed facility with limited city appropriations and therefore prior to the shift in governance and the implementation of a regional dedicated property tax for the Zoo. Since 2005 and with the shift in governance and funding, the Detroit Zoo's annual attendance has grown by over 18% with 1.15 million visitors to the Zoo in 2010. With the dedicated regional funding and increased visitation, the Zoo's operating and contributed revenues are significantly higher than in 2005. The Zoo “did not see any negative financial impacts” with elephants eliminated from the collection and received “only a few complaints” from visitors not able to see elephants. The Detroit Zoo did not have any direct labour savings with the relocation of the elephants as existing staff were absorbed into the staffing plan. However, overhead expenses related to animal food were reduced as the Zoo was able to reduce its hay consumption. There is no current plan to bring elephants back into the animal collection.

⁶ Newspaper accounts at the time of the decision in 2004 quote the Director as saying: “now we understand how much more is needed to be able to meet all the physical and psychological needs of elephants in captivity, especially in a cold climate,”

- The **Philadelphia Zoo** in 2009 relocated its two elephants to the Pittsburgh Zoo's International Conservation Center. The primary reasons cited for relocating the elephants were the financial challenges of implementing the facility master plan within a compressed facility site plan – the “need for increased space for elephants.” Since 2009, the Zoo's attendance has increased annually. It is currently 1.2 million visitors for the fiscal year ending February 2011 which is the second highest attendance in 16 years after fiscal year 2010. Like Detroit, attendance did not increase or decline primarily because of elephants. The Zoo has had some minor staff/labour savings (0.4 FTE) because most of the elephant staff assumed other duties with the zoo. Direct savings, however, were realized from the reduction in hay usage – the primary source of food for the elephants. The Philadelphia Zoo has left open its options for having elephants in the collection at some future date – pending funding, master plan priorities and space utilization considerations.
- The **Lincoln Park Zoo** in Chicago relocated its last elephant in 2005 to the Hogle Zoo in Salt Lake City, Utah. Since the Lincoln Park Zoo is a free admission zoo the attendance and financial impacts are difficult to measure. However, it appears that the Zoo has not experienced any negative financial impacts from relocating the elephant. There were some temporary complaints but no long-term negative impacts. The primary reason for relocating the elephant was the “best and highest utilization” of facility space given its current overall facility size limitations. The Zoo has left open its options for having elephants in the collection at some future date – again, pending the outcome of a number of external factors, including the IMLS study.
- **Jackson Zoo's** (Jackson, Mississippi) relocated its remaining two elephants to the Nashville Zoo in November 2010. Although there were various reasons for eliminating the elephants, the primary reasons were financial due to challenging economic realities. In addition, the Zoo was not able to make the facility investment costs required to maintain three elephants (per AZA standards) and/or to expand the exhibit. Since the elephants only left in November 2010 it is “too early to determine if there is any financial or attendance impact” from the loss of the elephants. To date, the Zoo “has received only a few complaints” from visitors in not having elephants within the collection. The Jackson Zoo is very unlikely to bring elephants back in the future because of the high capital and operating costs.
- The **Brookfield Zoo** (Chicago) returned its last elephant in September 2010 to the owner Six Flags in Jackson, New Jersey. The Zoo, as part of its new facility master plan, is currently planning for the renovation and expansion of its elephant program. The Brookfield Zoo “is committed to having elephants in the future.” A timeline for the renovations and expansion is not known today as the Zoo is currently in the process of a major capital fundraising initiative. In 2010, the Zoo had its highest recorded attendance.
- Like the Toronto Zoo, the **Bronx Zoo** currently exhibits three elephants. The Bronx Zoo has indicated that once the current elephant collection no longer meets the minimum three elephant guideline as established by the AZA it will not exhibit elephants at the Zoo, based on current policies and recommendations.

3.3 Zoos Planning for Expansions of Elephant Programs

Seven zoos (out of the total of 78 AZA elephant-holding zoos) will be opening major new expansions to their respective elephant programs in 2011 or early 2012. These include **Birmingham, Cleveland, Denver, the National Zoo in Washington DC, Oklahoma City, Portland and Tucson**. Elephants are the primary animal focus with these expansions although all of the new exhibits include other animals too.

The level of capital investment for the new expansions ranges from a low of \$8 million to a high of \$44 million, inclusive of all hard and soft costs. Funding for these capital investments was a combination of public/private dollars with the Birmingham Zoo reporting the highest percentage of private sector funding at 63%. The average percentage of private sector funding among the group is 32% of the total investment, with 68% in public investment.

AZA Zoo Directors/Presidents agree that “maintaining elephants in northern climates is more costly” than in southern zoos. They also echo the viewpoint that “if zoos are not willing or able to commit the required level of resources for exhibiting and maintaining elephants, they should consider phasing out of elephants.”

Two AZA zoos – **Dallas and Los Angeles** – opened significant new elephant facilities in 2010 with capital investment costs of \$31 million and \$42 million, respectively. Both Dallas and Los Angeles have seen significant increases in their attendance with the opening of their new exhibits - Dallas Zoo’s annual visitation increased over 35% from the previous year and the Los Angeles Zoo has experienced an increase of 14.2% in visitation during the three months that the new exhibit has been open to the public – annualized attendance is expected to see at least a 25% increase over the previous year. However, just as increased attendance levels cannot be attributed to the elimination of elephants neither can higher attendance be attributed solely to the addition of elephants.

The **San Diego Zoo** opened in May 2009 “Elephant Odyssey” a \$45 million, privately-funded, elephant exhibit. This increased its elephant population from three to eight elephants and the Zoo reported record attendance in 2009. Again, many factors had a positive impact on the Zoo’s visitation and increased revenues, only one of which is the opening of the new Elephant Odyssey exhibit.

Two other large-scale elephant centers are in development:

- **The National Elephant Center**, a 300-acre site in Florida, is intended to become a world leader in elephant population management, conservation, scientific research and care for elephant populations in zoos and in the wild. The Center is the result of a unique collaboration among zoos accredited by the AZA. It could be used to provide both temporary and permanent homes for Asian and African elephants. Anticipated to be open in late 2011 or early 2012, the Center could be home for up to 18 elephants as part of the initial development phase.

- The **Oregon Zoo's remote elephant center**, a 300+-acre site in the Portland area will care for Asian elephants. This \$30 million Center, supported through a voter-approved capital bond program, is currently in design and is anticipated to be completed in early 2014.

In addition, the **Pittsburgh Zoo's International Conservation Center** opened in 2008 and is located on a 724-acre site in Somerset County Pennsylvania. It is a premiere conservation, research, education and training facility specializing in the long-term care and breeding of African elephants. Currently, there are three African elephants at the Center.

There are two primary non-AZA elephant sanctuaries in the United States – The Elephant Sanctuary in Tennessee and PAWS (Performing Animal Welfare Society) in California. Neither of these facilities has as its goal to become accredited by the AZA. The Elephant Sanctuary in Tennessee is accredited by the Global Federation of Animal Sanctuaries, founded in 2007, but PAWS is not listed.

4. Analysis of the Phase Out and Expansion Options

This chapter takes into account the experience of other zoos as summarized in the previous chapter, a review of background documents and feedback from the interview process to guide our analysis of the phase out and expansion options for the elephant program at the Toronto Zoo. The analysis has been conducted to take into account the following factors or evaluation criteria:

- Toronto Zoo Vision and Strategic Plan
- Health and Well-Being of Elephants
- Conservation and Education Commitments
- Availability of Elephants
- Cost of Elephant Acquisition
- Capital Costs of Facilities
- Transition Costs
- Opportunity Cost Implications
- Staffing and Other Operating Costs
- Attendance and Visitor-Generated Income
- Private and Government Funding
- Public Relations

The analysis is set out below, followed in the next chapter by a summary of the analysis, conclusions and recommendations that emerge from this study.

4.1 Toronto Zoo Vision and Strategic Plan

The Vision statement of the Toronto Zoo is as follows:

The Toronto Zoo will be a dynamic and exciting action centre that inspires people to love, respect and protect wildlife and wild spaces.

To accomplish this vision, the Toronto Zoo follows seven strategic directions:

- Nurture a culture of best practice, passion and commitment.
- Protect wildlife populations and the places that sustain them by demonstrating environmental leadership through model conservation programs and partnerships.

- Offer compelling education and outreach experiences to inspire people to care about wildlife and protect habitats.
- Deliver a guest experience that is fun, welcoming, interactive and shows our commitment to sustainable living.
- Create dynamic habitats that celebrate the spectrum of plants and animals and connect people with nature.
- Invest in renewal of the Zoo's infrastructure and support systems with a commitment to state-of-the-art facilities, equipment and environmental best practices.
- Build revenue streams, fundraising capacity and strategic relationships.

Advocates for either expansion or phase out of the elephant program are able to utilize the strategic directions to support their positions. Proponents of expanding the elephant program point to the reduction in the number of elephants in range countries, which are subject to poaching, human-animal conflict and potential culls. They emphasize that elephants in the Zoo help to boost awareness of conservation issues, which are, for example, an important part of the regular elephant keeper talks at the Toronto Zoo. Elephants in zoos are described as ambassadors for their species to people who attend zoos and learn about conservation messages. They point to the need for viewing real elephants to facilitate education, as opposed to web cams and interactive displays as has been proposed by organizations and individuals seeking elimination of the elephants from zoos in general and the Toronto Zoo in particular. Having elephants at the Toronto Zoo is thus perceived to be fully consistent with its vision and strategic directions.

To proponents of phase out, commonly heard and read was that elephants should not be forced to endure cold weather northern winters and are faced with health-related problems and earlier death in captivity than those in protected wild areas such as reserves. They believe a Toronto Zoo mission that expresses support for conservation should result in elephants being excluded from the Toronto Zoo. Those who oppose elephants in captivity also emphasize that people are visiting primarily as family recreation and are not influenced by keeper talks and other conservation messages. These and related issues will be discussed further below.

The welcome message from the Toronto Zoo Board Chair in the 2010 Visitor Guide emphasizes that "conservation is the reason the Toronto Zoo exists and every effort goes into ensuring the highest standards of care for our animals – of which many are threatened or endangered." An issue here is whether existing elephant facilities offer the "highest standards of care." Interviews suggest that standards for elephants have changed over the years and are likely to continue to do so in the future. Toronto Zoo elephant keepers and other staff interviewed do not believe that existing facilities for elephants are offering the highest standards of care and are thus advocating for much larger indoor and outdoor space for elephants.

What appears to be agreed is that existing elephant facilities at the Toronto Zoo are no longer adequate, even though they still meet current AZA standards. This suggests that adding more elephants when one or two of the existing elephants dies would not be appropriate.

The *Toronto Zoo Strategic Plan 2009-14* emphasizes the “dynamic tension” between the Zoo’s “attraction business” and “conservation business.” Specific to the Elephant Program, Strategic Direction #5 item 3b includes reference to an Elephant – Winter Holding/Paddock Expansion “to provide additional space for the elephants and enhanced viewing for guests.”

In the context of the dynamic tension between conservation and attraction, the current plan developed by Toronto Zoo staff and CLR Design emphasizes investment in larger facilities for elephants over investing in enhanced viewing for guests. This primary emphasis on the needs of the elephants in the largest indoor space in North America is believed by Toronto Zoo elephant keepers and associated staff to be the basis for a future elephant program. For individuals and organizations opposing elephants in northern climates or at zoos in general, there appears to be no implementable amount of indoor and outdoor space that would be enough to overcome the captivity-related illness and premature death faced by elephants they cite, as discussed below.

4.2 Health and Well-Being of Elephants

Scientific/academic studies have been cited by a variety of animal rights organizations to make the case that elephants should not be in zoo captivity. HelpElephants.com, for example, reported that four elephants died prematurely at the Toronto Zoo in less than four years and that none lived beyond 40 years “even though elephants have a natural lifespan of 60-70 years.” This was the basis for ranking the Toronto Zoo second worst on its 2009 Top Ten Worst Zoos for Elephants. The Toronto Zoo did not make the list at all in 2010. PETA (People for the Ethical Treatment of Animals) emphasizes that “elephants walk up to 30 miles per day and that continuous confinement causes elephants severe physical and psychological distress.” (PETA Media Center, September 1, 2010) An article in *Toronto Life* (July 2010) quoted Joyce Poole, a noted elephant expert who has studied elephants in the wild for 30 years. She wrote a letter to city councillors in Toronto asserting that the Toronto Zoo is unable to provide the warm climate, opportunities for social interaction with other elephants, and space to roam that the large animals require.” The Zoocheck Canada website states that “zoos cannot provide the space, complexity, and social environment that elephants need.” Relocating elephants from the Toronto Zoo is therefore seen by Zoocheck Canada as an ethical issue.

Several studies on elephant health and welfare were forwarded to us or cited by the Toronto Zoo, Professor Georgia Mason and Zoocheck Canada. The various scientific/academic studies that have been conducted essentially identify three main factors why elephants should not be in captivity at the Toronto Zoo.

- Elephants have much shorter life spans in zoos due to captivity-related illnesses and confinement;

- Elephants should not be in zoos with cold weather winters;
- Elephants need far more space to roam than is possible in zoos.

4.2.1 Elephant Life Spans and Health

Scientific/academic studies have concluded that elephants in zoos suffer from captivity-related:

- shorter life spans
- low fertility rates and reproduction problems, including high rates of stillbirths, and being forced to breed too young
- psychological disorders including stereotypic behaviour (swaying due to stress), the killing of infants, and hyper-aggression toward other elephants
- obesity
- arthritis and foot infections from hard and unnatural surfaces

The most important issue is whether elephants in captivity suffer from substantially shorter lifespans than in the protected wild. Often cited was a 2008 study published in *Science* "Compromised Survivorship in Zoo Elephants" (Clubb, Rowcliffe, Lee, Mar, Moss and Mason, December, 2008). It reported that an elephant's natural lifespan in the wild is 60 to 70 years and that elephants in zoos die far younger, often due to stress and obesity associated with captivity. The study was criticized by AZA and CAZA for flawed data and analysis. In a response, AZA noted that it is based on only European zoos over the period from 1960 to 2005 and "gives a reflection of the past rather than an accurate picture of the present" in which there have been substantial improvements.

In a document titled Questions and Answers, which includes a section called "The Facts about Elephants in Zoos" (June 8, 2010) the Toronto Zoo disputed that elephants in captivity live much shorter lives than elephants in the wild. It noted that "there may be some documented cases of African elephants living to their late 50's or even their sixties but these are exceptional cases and not the norm. People can live to be a hundred but who would claim that's the norm."

In an email to the consultants following an interview, Dr. Georgia Mason, one of the authors of the “Compromised Survivorship in Zoo Elephants” study, responded to the criticism of reporting on data from the 1960s by stating “we went back to the 1960s for a good reason: to gain essential statistical power. Because the populations are not very big, death events are not that common, and so you simply have to include four decades to cover enough of these events to run statistical tests. If we had focussed on the last two decades only, our survivorship curves would all have been very 'steppy' messes, with horribly wide confidence intervals, and we then would not have been able to see a thing. Whoever analyses the North American population's data will hit just the same problem, and they will have to solve it the same way (though pooling the data with the European data would also help).” A key issue here is thus of sample size and the need to reflect more recent conditions. These are among issues being addressed in the comprehensive IMLS funded study of all 290⁷ existing elephants at 78 North American zoos which will not be seen as biased by zoo professionals since their colleagues are a major part of the team conducting the study. Others interviewed expressed that the IMLS study was likely to be faulty because it starts with the assumption that elephants should be held in zoos and is focused only on improving their conditions.

The “Compromised Survivorship in Zoo Elephants” study, among many others, has been used by opponents of elephants in captivity to justify their elimination from zoos entirely or at least from northern zoos. In an interview with the consultants conducting this study, Dr. Mason expressed that “Compromised Survivorship in Zoo Elephants” did not conclude that elephants needed to be eliminated from zoos but did raise health and welfare concerns that required comprehensive study. In particular she advised that the Toronto Zoo wait for the results of the current IMLS funded study of 290 elephants at 78 AZA institutions. We concur with this advice.

A question asked by Zoocheck Canada is “why are elephants in zoos not living longer than in the wild since they are provided with expert veterinary care, good food, stimulation activities, etc. in zoos?” The response from the Curator of Mammals at the Toronto Zoo is to dispute that elephants live longer in the wild today. “We have learned a lot over the years when it comes to keeping elephants in captivity and have implemented exercise and enrichment programs, etc. This has definitely increased the lifespan of elephants in captivity compared to the studies using data from the 1960's.” It must be noted that Zoocheck Canada does not oppose the existence of zoos or of animals in captivity generally but believes that the existing scientific data proves that elephants should not be among them.

4.2.2 Cold Weather Winters

Cold weather winters in northern cities like Toronto mean that elephants need to spend a substantial amount of their time indoors during the winter. This is cited in a variety of studies as contributing to elephant stress, obesity and other health and welfare concerns. In a written submission to the consultants conducting this study, Zoocheck Canada claimed that elephants in northern (cold weather) zoos die 10 years younger than elephants in southern zoos. The evidence was expressed to be available by reviewing studbooks and will be published by Zoocheck Canada soon.

⁷ Some in the zoo community believe that even a sample of 290 is not large enough to draw clear conclusions.

Toronto Zoo elephant keepers emphasize that elephants do spend time outdoors in the winter when the temperature is above the minimum level standard established by AZA. Opportunities are also provided during slightly lower temperatures if it is sunny, with low winds and no ice in the paddock areas. The number of days in which the elephants do not have outdoor opportunities varies each year but there are certainly warmer weather days during the winter months in which elephants and other animals enjoy opportunities to be outdoors. These are also the days in which zoo attendance spikes upward. For comparative purposes, African Lion Safari has a lower temperature cut-off in part because it features Asian elephants with smaller ears. African Lion Safari, close to Toronto, was often cited in interviews as an example of a successful elephant program, including breeding, very close to Toronto, despite being a cold weather location.

To increase the available time outdoors, CLR Design has proposed including microhabitats at Toronto Zoo. These are outdoor habitats that have heating elements and windbreaks to make them comfortable in colder weather. The Toronto Zoo is assessing their effectiveness and efficiency as part of the plan for a future elephant program, if implemented. Even if effective, the microhabitats were felt to be inadequate by persons interviewed who do not believe elephants should be held in northern climates.

As discussed in Chapter 3, elephants do stay outdoors in cold weather in Africa. However, cold weather is not the norm as it is in Toronto winters and there would seem to be a difference between elephants huddled for a few cold days in Africa versus the need to remain indoors in small spaces for most of the time during several winter months. A key question is thus whether substantially larger indoor enclosures are able to adequately address the issue. This is an area of major disagreement. In reviewing the web sites of organizations like In Defense of Animals, it appears clear that no indoor enclosure could be large enough since they state categorically that elephants do not belong in cold weather climates or in urban zoos.⁸ The 2010 Top 10 Worst Zoos for Elephants includes several that are in warm weather climates. One is the Honolulu Zoo which was criticized for introducing a “miserly expansion” to its elephant facilities of less than an acre. However, the view of the organization is clear as to what level of expansion would be acceptable by the statement that “this zoo will only make the grade if it ends its elephant program.”

⁸ <http://www.help elephants.com/coldclimatezoos.pdf>

Zoo professionals disagree with the claims of many of the scientific/academic studies, viewing them as flawed and biased. But there is agreement that larger spaces are preferred relative to what was recognized as adequate in the past. The Toronto Zoo started its elephant program in 1974 with a barn of 3,100 sq. ft. (290 sq. metres). A new barn was added in 1982 of 5,550 sq. ft. and this was expanded in 1998. The current indoor space at the Toronto Zoo is about 9,900 sq. ft (920 sq. metres), and was state of the art/science when it was constructed. This barn accommodated up to seven elephants in the past and there are currently three, allowing the existing facilities to substantially exceed current AZA standards. The new elephant barn is proposed to be 40,300 sq. ft, which includes 12,000 sq. ft. of indoor socializing space not currently available. One comment heard in interviews was that a 40,000 sq. ft. indoor enclosure, including a large space for socializing, sounded very good, but that until the results of the IMLS study are known it would still be speculation whether this was the right size and whether its features would be adequate to address cold weather and health-related issues. This appears to be a wise assessment. ***We have therefore recommended that no investment in acquisition of elephants or construction of larger and better quality facilities at the Toronto Zoo take place until completion of the IMLS study.***

Remaining indoors in cold weather is an issue not specific only to elephants. Some persons interviewed emphasized that there are many animals in zoos that originate in different climatic areas. For example, just as there are African animals in northern zoos so too are there Canadian polar bears in southern zoos. This allows access to the animals for persons who would otherwise never get to see and appreciate them in the wild. The ideal for elephants, according to the submission by Zoocheck Canada would be at least 10 acres of year round, climate controlled indoor habitat with natural light and natural substrate. Some persons interviewed who supported the current plan for 40,300 sq. ft. of indoor space commented that a 10-acre indoor space is neither realistic nor necessary.

4.2.3 Roaming Space Needs of Elephants

Opponents of elephants at the Toronto Zoo state that increasing the outdoor space even three or four times is not adequate. References in articles and interviews maintain that elephants walk up to 30 miles per day in the wild. The counter to this heard in other interviews was that this was “up to 30 miles” and is not the daily norm in the wild just as elephants living to 70 was not the norm in the wild either. Web sites of some of the animal rights groups acknowledge that some zoos are moving in the right direction by introducing much larger indoor and outdoor spaces than in the past. However, this is still inadequate and instead elephants should be in large outdoor sanctuaries such as those in Tennessee and California. These sanctuaries are not accredited by the AZA. The Global Federation of Animal Sanctuaries is the organization that accredits sanctuaries, and of the two elephant sanctuaries, the Tennessee location has been accredited. One person interviewed expressed that these standards are more stringent than those of the AZA. Zoo officials strongly disagreed with that assessment and criticize the level of care provided to the elephants in those sanctuaries and note that there have been unexplained deaths there as well as at zoos. The counter-argument heard was that elephants sent to sanctuaries have tended to be older and sick and so deaths are not surprising. This is yet another example of many strong disagreements heard when it comes to elephants.

What is endorsed by the AZA is The National Elephant Center. It is a 300-acre site in Florida, the result of collaboration among zoos accredited by the AZA. The Center is to become a world leader in elephant population management, conservation, scientific research and care for elephant populations in zoos and in the wild. The Center will exceed current AZA and CAZA animal care and management standards and could be used to provide both temporary and permanent homes for Asian and African elephants. Anticipated to be open by early 2012, the Center could be home for up to 18 elephants as part of the initial development phase. The Center will allow elephants to have access to large exhibit yards allowing them to range freely. In addition to The National Elephant Center, examples discussed in Chapter 3 of other zoos offering much larger roaming spaces include 300 acres at the Oregon Zoo and 724 acres at the Pittsburgh Zoo. These elephant centers are programmed to complement and support the existing 78 AZA elephant holding institutions by offering temporary holding while new exhibits are completed, or places for elephants should AZA zoos decide at some later time to phase out of elephants. *The large size of these sites does confirm recognition of the value of very large roaming spaces for elephants. This suggests the need for the Toronto Zoo to consider any practical opportunities to increase the outdoor space beyond the 2.7 acres in the current plan, assuming that is one of the directions established by the IMLS study, and if the elephant program is to be maintained in the future.*

Toronto Zoo staff emphasize that it is not only the quantity of space that is important but also the quality. This includes exercise, enrichment and stimulation opportunities provided by trained elephant keepers. However, the quality issue is disputed by opponents of elephants in zoos as an inadequate substitute to the large outdoor pastures and varied topographies that elephants need.

The current plan for much larger and better quality facilities developed by Toronto Zoo staff and CLR Design adds substantially to the walking, exercise and enrichment opportunities for elephants. However, the IMLS study may result in changed standards. This suggests again the need to wait for the results of this comprehensive study before investing in facilities that may or may not need to be substantially modified to adhere to new standards and also that may or may not be affordable in the context of other priorities of the Toronto Zoo, discussed later in this chapter.

4.2.4 Importance of the IMLS Study

As stated, the consultants conducting this study regarding the options of phasing out or expanding the elephant program at the Toronto Zoo are not elephant health experts. It was not the objective of this study to review or attempt to judge the validity or objectivity of every publication associated with elephant health and welfare. Nonetheless, what appears clear is that disagreement among scientists will continue. Given the large number of elephant studies, it does not appear reasonable for zoo professionals to discount all of them as biased against zoos. On the other hand, although standards and practices at zoos with respect to elephants have improved substantially over the years and are likely to continue to do so in the future it does not appear that any changes to the standards will be adequate to those whose starting assumption is that elephants should not be held in zoo captivity under any circumstances.

We have referred on several occasions to disagreements regarding the studies associated with the health and welfare of elephants in zoos and therefore to the importance of the current study of all 290 African and Asian elephants in North America at 78 AZA accredited zoos. That study is focused on elephants today and not 40 years ago, reflects conditions in North America and not Europe and will not be seen to be biased against zoos, as is perceived by zoo professionals to be the case with so many of the articles that have been written. The objective of the IMLS study is to develop a comprehensive scientific assessment of the welfare status of zoo elephants and an understanding of the housing conditions that impact it, including those that most enhance elephants' lives.

About 63% of AZA elephant-holding zoos have identified plans for larger and better quality elephant facilities. Interviews discussed in Chapter 3 suggest that some zoos are moving ahead before the results of the IMLS study are known based very much on the assumption that substantially larger facilities will certainly be recommended in the IMLS study and facilities and programs can be adaptable to the specific recommendations emerging from that study. Others will wait for the results of that study. ***We have recommended that the Toronto Zoo be among those that wait for the results of the IMLS study before proceeding with construction of elephant facilities and that it instead proceed with other capital priorities.***

4.3 Conservation and Education Commitments

Conservation is a central part of the mission of the Toronto Zoo, and was discussed above in relation to the Zoo's mission and strategic plan. The focus here is the Toronto Zoo's impact on the global conservation of elephants and the role of elephants on site in the Toronto Zoo's education programs.

Will the phasing out or expansion of the elephant program have an impact on the Toronto Zoo's commitment to the global conservation of elephants? What is agreed is that zoo elephants will never be reintroduced to the wild, so that aspect of conservation is not germane to the debate. For those who believe elephants should not be in zoo captivity the answer is that eliminating the elephant program should free up funds to support the protection of elephants in the wild. This was expressed in a variety of articles and web sites and heard in the interview process. The counter argument, and the one that is more credible, is that funds generated for zoos reflect a desire to enhance opportunities in the funders' own communities. One therefore cannot assume that a substantial part of the funds allocated or planned for elephants will be available to be shifted to protect elephants or to pay for elephant proof barriers in range countries.

What is reasonable is to expect more funds to be allocated to conservation in the wild than is currently the case. From 2004-2010, \$18,000 raised from the Toronto Zoo wishing wells was spent on elephant programs. From 2002-2010 the Elephant Managers Association at the Toronto Zoo has raised \$23,000 to support various conservation and research projects. These have included the Sumatran Elephant Fund, Asian and African Elephant projects as well as International Elephant Foundation projects such as Garamba National Park, Conservation Response Units in Sumatra and the Northern Rangelands Trust in Kenya. This fund has also supported EEHV herpes research at the National Zoo, Baylor College and Cornell University. Funds not specific to elephants but generally for conservation projects in Africa totalled close to \$103,000 from 2004-2010. For purposes of comparison conservation and research, expenditures for gorillas were over \$88,000 from 2006-2010 and over \$44,000 for white rhinos from 2006 – 2010.

Although zoos do raise funds to support conservation efforts in range countries it would be reasonable to expect that they and their visitors should seek to do more. We recommend that the Toronto Zoo offer visitors more donation opportunities specific to elephants in the context of its elephant exhibitions, and seek at least dollar matching from corporate supporters.

Advocates for investment in expansion of the elephant program point to the role of elephants in captivity as ambassadors for the species and that access to elephants encourages visitors to be aware of conservation issues. For example, elephant keeper talks emphasize the need to avoid the purchase of ivory to reduce the demand for it and thus reduce the economic value of poaching. However, it is uncertain what the actual impact of those talks is, taking into account that only 7.3% of visitors surveyed by the Toronto Zoo attended keeper talks in 2010, which was actually high in comparison to data for other years. Some persons interviewed expressed that even when heard conservation messages have little if any impact on the behaviour or attitudes of visitors exposed to conservation messages. Cited, for example, was a study in the United Kingdom that showed adult zoo visitors generally did not leave with a greater sense of the importance of conservation than when they arrived.⁹ AZA disputes these findings, pointing to a 3-year nationwide study of 5,500 visitors to zoos. It concluded that attendance at AZA-accredited zoos and aquariums in North America does have a measurable impact on the conservation attitudes and understanding of adult visitors. The impact was shown to also be longer term for a substantial number of visitors. "We called a subset of the participants seven to eleven months after their visit to determine the impact of the visit over time. Sixty-one percent of visitors were able to talk about what they learned from their previous visit, and 35% reported that the visit reinforced their existing beliefs about conservation, stewardship and love of animals."¹⁰

Zoocheck Canada reported having conducted its own study during the summer of 2010 of the amount of time visitors spend watching seven different species of animals, including elephants at the Toronto Zoo. The study revealed that on average, visitors spent 117 seconds (less than two minutes) watching the elephants and that the median time was 79.5 seconds and was comparable to the 87.5 second median time reported to be spent watching elephants at the Chester Zoo in the United Kingdom. Zoocheck Canada also reported that less than 1% of the people who visited the Toronto Zoo's elephant exhibit read the signage.¹¹ Toronto Zoo staff dispute the accuracy of these claims in part because elephant keeper talks held four times per day during the summer when these observations were made are 10 - 20 minutes in duration. It is also unclear when there is a claim that less than 1% of visitors read the signage whether that means they had to read all or just some of the signage to be included within the 1%.

⁹ Balmford, A., Leader-Williams, N., Mace, G., Manica, A., Walter, O., West, C. and Zimmermann, A. 2007. Message received? Quantifying the impact of informal conservation education on adults visiting UK zoos. In "Zoos in the 21st Century: Catalysts for Conservation?", eds. A. Zimmermann M. Hatchwell L. Dickie and C. West), 120-136. Cambridge, UK: Cambridge University Press.

¹⁰ John Falk et al, "Why Zoos and Aquariums Matter: Assessing the Impact of a visit to a Zoo Aquarium, Association of Zoos and Aquariums, 2007

¹¹ Part of a 27-page submission by Zoocheck Canada to Ted Silberberg, dated February 25, 2011, setting out the reasons the Toronto Zoo should not have live elephants

Another issue is whether conservation messages could be effective in the absence of elephants. In 2010 Zoocheck Canada proposed an Elephant Learning Centre that would provide conservation and educational messages in a contemporary, interactive way, in place of live animals. It cited the popularity of the temporary dinosaur exhibition held at the Toronto Zoo in 2007 as evidence of opportunities to provide virtual access and to inform visitors about conservation issues without the need for real elephants. This comparison is disputed by Toronto Zoo staff because, unlike animals today, there is no opportunity to have real dinosaurs at the Zoo. They emphasize that the purpose of a zoo is to bring animals and people together. The AZA quotes a Harris Interactive Poll finding that 95% of Americans believe that seeing elephants in zoos helps people appreciate them more.

4.4 Availability of Elephants

As reported in Chapter 3 there are substantially more zoos in North America contemplating expansion of their elephant programs than those that have or plan to phase elephants out. And among those that have or will phase elephants out, the reasons are primarily financial and not ethical. In fact, interviews indicate that one and perhaps two of the zoos that phased out elephants have committed to not having elephants in the future for reasons that go beyond the financial.

The AZA “Facts about Elephants in Zoos” in 2009 noted that 61 AZA-accredited zoos have or are planning to significantly upgrade their elephant facilities. The capacity for elephants in accredited zoos is therefore expected to rise from 290 elephants to 532 elephants in the next five years.” However, although the capacity might increase there is less certainty about the availability of elephants to meet the demand as discussed below.

4.4.1 Elephants from Other Zoos

There are very few elephants available from other North American zoos. The AZA Elephant TAG/SSP (Taxon Advisory Group/Species Survival Plan) mid-year meeting (May 13-14, 2010) included reference to 113 Asian female elephants in the SSP in captivity, of which only 33 (29%) are of reproductive age. It reported that of the 127 female African elephants in the SSP, only 41 (32%) were of reproductive age. Toronto Zoo staff note that even if female elephants are of reproductive age there are often no bulls to mate with and first pregnancies after the age of 24 is considered risky to the elephant. Even with breeding programs, there will likely be an inadequate or at best uncertain supply of elephants to meet the future demand.

4.4.2 Privately Held Elephants

Beyond arrangements to relocate the likely few available elephants among AZA accredited zoos, the AZA recommends that zoos seeking to acquire elephants “first consider captive animals in substandard conditions in North America, then captive animals outside the US, then wild animals surplus to the needs of the managed population or those to be captured or killed because of human-animal conflicts.”

4.4.3 Elephants from Range Countries

Since opening in 1974, the Toronto Zoo has always had African elephants in its collection. The Toronto Zoo obtained its first elephants as a result of a cull of adult elephants given the over-population of elephants in southern Africa at the time. The orphaned elephants were then sold to zoos primarily in North America and Europe. The last cull was in 1995, ending the ability to easily acquire new African elephants from the wild. Although there has been talk of another cull, pressure is on those countries to find other ways to control their elephant population growth. Similarly, there is still trophy hunting of elephants in some African countries. This creates orphaned elephants but most zoos, including the Toronto Zoo, do not wish to acquire orphaned elephants that result from trophy hunting. The preference, if possible, is to acquire elephant family units from range countries with an over-population of elephants.

Toronto Zoo staff note that it is difficult, time consuming and expensive to acquire surplus elephants from range countries. If elephants were offered by range countries, there would be substantial competition among the numerous zoos that are seeking to acquire them. As heard in the interview process, if an allocation of elephants is made through the AZA elephant Taxon Advisory Group (TAG), the TAG might give preference to zoos in the United States. However, if the Toronto Zoo were to actively pursue an acquisition, and satisfy the financial terms, they would likely be successful if elephants were available. Government to government contact would assist the process and further increase the chance of success.

4.4.4 Asian Elephants from Other Canadian Sources

As discussed, the elephants at the Toronto Zoo are Africans, as they have been from the outset. Some persons interviewed advocated that if the Toronto Zoo has an elephant program in the future it should focus instead on Asian elephants. This is because there are only 30,000 Asian elephants in the world compared to 500,000 African elephants. Despite the fact that the African elephant population is estimated by AZA to have declined from 1.6 million to 500,000 in the past 25 years they are not seen to be at risk. In fact the elephant population has doubled in South Africa and Botswana and there has been talk of another cull and continued trophy hunting as discussed above. Acquiring Asian elephants was seen by some persons interviewed to be more consistent with the conservation-related mission of the Toronto Zoo to preserve and propagate species at risk of extinction.

Asian elephants would be easier to obtain, as there are breeding programs already in place at African Lion Safari and the Calgary Zoo. And not crossing borders makes acquisition far easier and less time consuming. As heard in the interviews from proponents of Asian elephants, most visitors do not know the difference between Asian and African elephants as witnessed by the fact that "African" Lion Safari includes only Asian elephants.

Most Toronto Zoo staff interviewed would prefer retaining the focus on African elephants. This is because of the history of Africans since opening, the fact that the elephant facilities at the Toronto Zoo are in the African domain, and because there is already access to Asian elephants at African Lion Safari, only 150 kilometres away. Another concern is that the elephants at the Toronto Zoo are managed in “protected contact,” which means there is always a barrier between the elephants and their keepers. African Lion Safari and some other sources of Asian elephants use free contact. This adds to the training time and costs to shift them to protected contact. Most importantly, Asian elephants are more prone to the herpes virus and other health issues. The preference for African elephants, if an elephant program is to be maintained, was expressed as well by Dr. Georgia Mason on the basis of scientific research indicating that African elephants tend to fare better in captivity. On the other hand Asian elephants do thrive at many zoos and are better able to adapt to cold weather. Moreover, while the elephant area is part of the African domain it is close enough to the Indo Malayan (Asian) domain to allow for graphics, theming and pathways to connect it should a decision be made to switch to Asian elephants in the future.

Toronto Zoo staff would support a switch to Asian elephants if Africans are not available in the future. Both CLR Design and Toronto Zoo staff agree that, if there is to be a future elephant program, the decision on whether to maintain an African elephant program or switch to an Asian program need not be made at this time since the facilities required would be essentially the same.

4.4.5 Elephants from a Toronto Zoo Breeding Program

After acquiring an initial group of elephants a commitment to a breeding program at the Toronto Zoo would eliminate the need to acquire new elephants in the future. Nonetheless, current ***uncertainty associated with the availability of elephants is another reason suggesting the wisdom of waiting for the results of the IMLS study before finalization of plans for elephants is made.***

4.5 Cost of Elephant Acquisition

The Toronto Zoo estimates the cost of acquiring elephants from Africa, if available, is \$75,000 for bulls and \$125,000 for females. Shipping costs are additional and in the range of about \$20,000 per animal. However, as indicated above the problem in acquiring elephants from range countries is less about the cost and more about their actual availability.

The cost of acquiring privately owned elephants is much more substantial. A private owner of an adult female and calf in the United States is seeking \$1 million for both. However, there are formal permit requirements to bring elephants into Canada, including from the United States. Acquiring Asian elephants within Canada will be easier, less time consuming and less expensive, confirming the wisdom of keeping open the option of acquiring Asian elephants in the future.

Elephants are among the most expensive animals to acquire and the costs must be weighed against the benefits, as discussed further below in the context of issues such as opportunity costs associated with other Toronto Zoo priorities.

4.6 Capital Costs of Facilities

Estimates by CLR Design are that the total capital cost for new and much larger elephant facilities at the Toronto Zoo is about \$16.5 million in 2010 dollars. Added to this would be the cost of elephant acquisition as discussed above. Assuming funds are raised, the time required to construct new facilities is estimated by staff to be about 18 months.

As previously mentioned an alternative to allocating capital funds to much larger, new elephant facilities is a plan developed by Zoocheck Canada for an interactive exhibit estimated to cost about \$15 million. The proposed Elephant Learning Centre includes multi-media and interactive exhibits combined with opportunities to touch the skeletons and hides of elephants, and would feature large photographs, web cam views and films of elephants on nature preserves. For purposes of comparing these figures it must be noted that there may be opportunities to reduce the estimated \$15 million capital cost of interpretive/simulation facilities for elephants. However, the value of a large investment in simulation relative to about \$16.5 million for the real thing appears questionable for a zoo.

As seen from the examples in Chapter 3, the primary reason that zoos have phased out of elephant programs is financial not ethical. It is clear that any zoo that is to maintain an elephant program will face substantial capital costs that are likely to increase in the future in the context of new standards likely to emerge from the IMLS study.

4.7 Transition Costs

Whether it is expanding the elephant program or phasing it out there are transition costs to be considered. Toronto Zoo staff estimate the costs to relocate existing elephants are estimated at \$10,000 each, or \$30,000 if all three of the elephants were to be relocated.

If the existing elephants are relocated then giraffes, rhinos or other animals could use existing facilities. Zoo staff has indicated that there is a pressing need for a new giraffe house. Costs to transform the existing elephant facilities for use by giraffes are estimated to be in the range of two million dollars, which also includes the cost to move another hoofed species into the existing giraffe exhibit. This would include modifications to the animal doors, removal of walls to create larger spaces, creation of indoor public viewing, protection of building components from animal reach, re-grading/ drainage/sodding/pool/fencing improvements at the paddock. At the existing giraffe exhibit a new house would be constructed and exhibit enhancements would be carried out.

4.8 Opportunity Cost Implications

Larger, new facilities for elephants at the Toronto Zoo are only part of a major capital development program for the Zoo. The master plan for the Toronto Zoo includes a wide variety of projects totalling some \$200 million. Clearly, \$200 million cannot be raised all at once and will need to be phased in over a substantial number of years. Priorities will need to be established by the Zoo and perhaps by funders in choosing among a menu of capital sponsorship opportunities. Spending \$16.5 million or more on elephants in the short term will inevitably delay implementation of other initiatives. Some of the other priorities include:

- Canadian Wilderness
- Education Centre
- Wildlife Health Centre
- Exhibit & Grounds Improvements
- Eurasia & Giant Panda

The master plan assumption is that about half of the needed funds will be from private fundraising and half from government sources. The reality, however, is that the Toronto Zoo does not have a strong track record of major private fundraising. And there is also uncertainty with respect to government financial support in a post-stimulus period in which governments are concerned about reducing debt and deficits. *Given the foregoing and the major IMLS study currently underway, which could affect how the available capital funds should be spent on elephants, combined with uncertainty regarding the availability of elephants, it appears appropriate to give priority to fundraising for other projects at the Toronto Zoo, at least until after the IMLS report is published.*

4.9 Staffing and Other Operating Costs

Operating costs associated with the feeding and care of elephants is higher on a per animal basis than for any other species. These include both staffing and care/feeding costs. With respect to staffing there are six keepers responsible for three elephants compared to 12 keepers for all of the other animals in the African Savanna domain. Since the remaining elephants do not get along, it means that more staff time is needed for these particular elephants than is the norm. For example, the keeper daily routine includes training each elephant in specific behaviours such as presenting their ear or foot for inspection, as well as walking each elephant for exercise. More time is spent with the three remaining elephants individually, due to compatibility issues when they interact as a herd. This helps to explain why keeper staffing levels declined only minimally with the reduction in the number of elephants from seven to three.

Data provided by the Toronto Zoo are set out in the following table indicating current operating costs of close to \$619,000 associated with the current three elephants and projected costs (in 2011 constant dollars) of about \$929,000 in the future. This assumes six elephants of varying ages. In simple terms the current annual operating cost per elephant is about \$206,000, while the future operating cost per elephant is estimated at about \$155,000. This reflects an economy of scale for a larger herd but also the reality of a larger facility and that elephants are more expensive to feed and care for than other mammals as discussed below.

PROPOSED ELEPHANT FACILITIES OPERATIONAL COSTS (\$2011)				
STAFF COSTS (based on per elephant costs)				
	CURRENT		PROJECTED	
	# of Staff	Total Cost	# of Staff	Total Cost
Animal Keepers (includes 20% benefits)	6	\$468,380	7	\$541,443
ANIMAL COSTS (based on per elephant costs)				
	CURRENT		PROJECTED	
	# of Elephants		# Elephants	
Food	3	\$84,000	6	\$168,000
Care supplies	3	\$10,000	6	\$20,000
		\$94,000		\$188,000
FACILITY COSTS				
	CURRENT		PROJECTED	
	920m2		3700m2	
Hydro (per sq. ft. with 15% reduction for energy efficiency)		\$14,600		\$49,888
Natural Gas (per sq. ft. with 15% reduction for energy efficiency)		\$28,091		\$95,987
Water (per elephant)		\$8,462		\$34,017
		\$51,153		\$179,892
CONSERVATION COSTS				
Conservation & Research		\$5,000		\$20,000
TOTAL		\$618,533		\$929,335

The following table compares the total operating costs associated with six gorillas, three polar bears and two white rhinos. These costs are substantially lower than the costs associated with the existing three elephants, as seen on the following table. *The data indicate that the per animal operating cost for an elephant is 4 to 5 times greater than the per animal cost for a gorilla, polar bear or white rhino. A decision to maintain an elephant program is thus already substantially more costly than it is for other large mammals and the total operating costs will increase even more as shown in the table above.*

Comparative Operating Costs for Various Species at the Toronto Zoo				
2011 Costs (rounded figures)	Elephants	Gorillas	Polar Bears	White Rhinos
Number of Animals	3	6	3	2
Staffing	\$468,000	\$205,000	\$88,000	\$39,000
Food	\$84,000	\$51,000	\$58,000	\$13,000
Supplies	\$10,000	\$8,000	\$5,000	\$3,000
Utilities	\$51,000	\$10,000	\$11,000	\$23,000
Conservation/Research	\$5,000	\$7,000	\$2,000	\$8,000
Total Operating Costs	\$618,000	\$281,000	\$164,000	\$86,000
Average Cost per Animal	\$206,000	\$46,833	\$54,667	\$43,000
<i>Source: Toronto Zoo, March 2011</i>				

4.10 Attendance and Visitor Generated Income

While the vision of the Toronto Zoo refers to "conservation of wildlife and wild spaces" it also refers to the Zoo as an "exciting action centre", emphasizing the importance of experiences that engage and cause people to take action. A zoo is a place that offers access to animals that would not otherwise be possible for the vast majority of people, especially animals from other parts of the world. Zoos are indeed popular attractions for the general public. Relative to other museum-related institutions in a city, zoo attendance is usually at the top of the list. This is also the case in Toronto, with annual attendance of about 1.3 million. The Toronto Zoo has a membership of 32,000 households, or 140,000 individual members, who account for close to 20% of total annual attendance. The cost for an annual family membership is \$145.

The tag line for the Toronto Zoo is "Same Planet Different World." This emphasizes the world-wide zoogeographic focus of the Toronto Zoo and raises questions about whether visitors expect it to feature elephants and other major species.

In the context of this study regarding the elephant program at the Toronto Zoo, important issues relate to the extent to which elephants contribute to attendance totals, repeat visits, membership and visitor satisfaction levels. Conversely, it is important to assess the likely impact on attendance, membership and revenue if there was no elephant program. Available data indicate the following:

- **Elephants are popular but are not the most popular species at the Toronto Zoo.** Visitor survey results for the Toronto Zoo over the period from 2004 to 2007, when more elephants were on view, are useful to consider. The data indicate that when asked about memorable experiences elephants ranked behind polar bears and gorillas and ahead of tigers during three of the four years, and also ahead of monkeys and giraffes each year. It must be noted, however, that other zoos have reported increased attendance associated with baby elephants. The Toronto Zoo has not had a baby elephant for many years, and this factor must be considered in the context of the popularity of elephants relative to other species. During this period babies were on exhibit for the following animal favourites: polar bear (2003), giraffes (2004 and 2006), gorilla (2005), Sumatran orangutans (2006), Sumatran tiger cubs (2006) and Siberian tiger cubs (2007).

- **The absence of elephants does not appear to have had a negative impact on attendance or membership at zoos that eliminated them.** As discussed in Chapter 3, most zoos that eliminated elephant programs found no negative impacts on attendance, public perceptions of the value of their visits, membership or other earned income.
- **Relatively few visitors listen to elephant keeper talks but this is nonetheless more than other keeper talks:** The 2010 On-Site Visitor Survey of 809 visitors over a 9-week period during the summer found that 7.3% of visitors attended Elephant Keeper briefings, higher than polar bears (4.0%) and other animals but nonetheless not a substantial number. The 7.3% was higher than any year since 2005. Reviews of the elephant keeper talks have improved over time, and noteworthy is that conservation messages have also increased in recent years. Other factors such as the time of talks, changes in daily visitor flow patterns due to events and activities, and weather could have also impacted these results.
- **About 11% of Toronto Zoo visitors say they will not attend if elephants are eliminated:** Some 85% of respondents in a 2010 survey of Zoo visitors said they would still attend if there were no elephants, 11% said would not and 4% had no opinion. If accurate an 11% reduction would lower Toronto Zoo attendance levels by about 143,000 visitors. It must be recognized, however, that what people say they will do in surveys does not always translate into action. It appears more likely that there will be an initial refusal by some to visit out of protest, but less likely that the negative impact would be long term for this many people. Nonetheless, even if 5% did not attend again in only the first year it would translate to a reduction of 65,000 visitors. The survey also indicated that about 62% of respondents thought the elephant exhibit was very important, 23% somewhat important, 11% neutral, 2% somewhat not important and 3% not important at all.

It appears clear that many visitors expect to see elephants at a zoo that represents the world, and it is likely there will be a somewhat negative response if elephants were not available at the Toronto Zoo. However, based on data from zoos that have eliminated elephants from their collections, any negative effects on attendance and membership would likely not be substantial or long term. Conversely, the introduction of baby elephants would have a positive impact on attendance.

4.11 Government Financial Support and Private Fundraising

The Toronto Zoo faces challenges in raising funds not only for the elephant program but other priorities as well. The current master plan has identified some \$200 million in capital needs over the next 10 to 15 years. With respect to public funding, the post-stimulus spending of the three levels of government is likely to be limited in the next few years. And the Toronto Zoo does not have a history of raising substantial funds from the private sector. Even more challenging is that elephants are the most costly and probably the most controversial species in zoos today. In comparison to funding an education centre or veterinary centre, or giant pandas, it does not appear that financial support for elephants should be an initial priority. This is particularly so because the current IMLS study will provide important answers regarding best practices for the management, care and health of elephants. And the study's results will not be available until late 2013.

It is a recommendation of this study that the Toronto Zoo consider fundraising for elephants only after the IMLS study is completed. Once completed, the IMLS study can provide benchmarks and standards to finalize plans for the future elephant program. At that time *it would be appropriate that an elephant program be part of a menu of funding opportunities for the phased implementation of the Zoo's capital campaign.*

In considering future fundraising, a key question is whether allowing the remaining elephants to be relocated would create a fundraising demand for new elephants and associated facilities, or whether the absence of elephants would create a situation of out of sight, out of mind? The Executive Director of Development at the Toronto Zoo commented that, based on discussions with one potential corporate partner, the company could not commit to sponsorship if there was not a long-term commitment to maintaining the elephant program. It is unknown how many other companies there are with a particular affinity toward elephants. On the other hand, corporate and government funders often seek to avoid controversy. The extent of that controversy will be far more substantial in the absence of the comprehensive IMLS study.

4.12 Public Relations

It is unclear what the public relations effects would be of a phase out or major expansion of the elephant program at the Toronto Zoo. What is known is the impact of elephant deaths. The Toronto Zoo received 393 letters of concern following the death of the elephant matriarch Tara in November 2009. Of those, only 19 originated in Canada. Although the death caused a few members and donors to withdraw their support, a larger number increased donations and offered bequests to support development of larger and better facilities for elephants. Articles in Toronto newspapers about the elephant program in February 2011 led to 18 emails. Of these, 13 suggested that the Zoo should relocate the remaining elephants. Five supported elephants at the Toronto Zoo. Ten of the emails were from within the Toronto area. From these numbers, it is evident that the public response to recent events concerning the Toronto Zoo's elephants has been minimal, particularly considering the nearly six million population of the Greater Toronto Area.

If the Toronto Zoo expands the elephant program, including breeding, it may lead to negative media coverage emerging from the reporting of protests by animal rights activists. This potential for negative media coverage should not be a determining factor associated with the elephant program but it does emphasize once again the value of waiting until the results of the comprehensive IMLS study on elephant health and welfare standards and benchmarks are published in late 2013.

Certainly, a decision to expand the elephant program with animals of breeding age presents the opportunity for baby elephants. Such an event would have a very positive public relations impact, as demonstrated by the spike in attendance and positive media stories experienced by other zoos with elephant babies.

The experience of other zoos indicates that the Toronto Zoo must have clear message points on its decision, whatever it is. The Toronto Zoo will need to tell its story on the decision (the "whys") and continue to be out front on the issues. If the decision is to relocate the remaining elephants this will require explanations associated with meeting AZA/CAZA standards, which are very important to the vision of the Toronto Zoo. If the elephant program is to be expanded it will be important to emphasize that the current plan for the elephants places the priority on the needs of the elephants in creating the largest indoor space in North America. And if the decision is phase out completely and not invest in new facilities for elephants an explanation will be needed that relates to issues of priorities and available funds. In any scenario, the Toronto Zoo will receive criticism since there really is no solution that will satisfy everyone.

5. Conclusions and Recommendations

This study has sought to offer an independent and objective analysis of options open to the Toronto Zoo with respect to its elephant program. The options are to either phase out the program or to invest in much larger, better quality facilities for elephants, recognizing that standards for elephant care have changed substantially since existing facilities were constructed in 1974 and last renovated in 1998. The analysis was conducted by Ted Silberberg, a Certified Management Consultant and a Senior Principal at Toronto-headquartered Lord Cultural Resources, the largest firm in the world specializing in the planning of museums and related institutions. He was assisted by Rick Biddle, Vice President of Schultz and Williams, a Philadelphia-based firm with substantial zoo planning experience.

Factors considered as evaluation criteria to inform our judgment included consideration of:

- Toronto Zoo Vision and Strategic Plan
- Health and Well-Being of Elephants
- Conservation and Education Commitments
- Availability of Elephants
- Cost of Elephant Acquisition
- Capital Costs of Facility/Visitor Experience
- Transition Costs
- Opportunity Cost Implications
- Staffing and Other Operating Costs
- Attendance and Visitor-Generated Income
- Private and Government Funding
- Public Relations

The analysis led to the following main conclusions and recommendations associated with both the future elephant program and the existing elephants at the Toronto Zoo.

5.1 Future Elephant Program

Our main conclusions associated with a potential future elephant program at the Toronto Zoo are as follows:

- **By and large the zoo community challenges the objectivity, accuracy and current relevance of published articles concerning elephant health and welfare associated with captivity and cold weather climates:** However, it is unreasonable to believe that all of the numerous studies are biased against zoos. The fact that a \$1.2 million study on elephant health, welfare and management, funded two thirds by the IMLS and one-third by the 78 zoos with elephants, is being conducted indicates recognition by the zoo community of the need for a comprehensive study. The focus is on 290 African and Asian elephants living in zoos today as opposed to many years in the past. It is on North American as opposed to European zoos, and AZA members are a large part of the study team. That study will therefore be seen to offer credible data that will inform elephant management in the future with its results available in late 2013.
- **There are substantially more zoos planning to expand their elephant programs than there are zoos phasing out of elephants:** This is despite the large number of studies suggesting that elephant health and welfare is compromised by being held in zoos, and despite the high capital and operating costs associated with elephant programs. As indicated in Chapter 3, in 2011 and early 2012, seven AZA accredited zoos are completing major renovations and/or expansions to their respective elephant habitats. The total investment in these improvements is over \$163 million. Among zoos that have phased out elephants or are in the process of doing so, the Detroit Zoo, has committed to not bringing them back in the future. The Bronx Zoo is in the process of a phase out and the San Francisco Zoo has no current plans to exhibit elephants in the future. Jackson Mississippi is very unlikely to do so because of the substantial capital and operating cost implications.
- **For zoos phasing out of elephants the factors are primarily financial as well as facility space/size limitations:** Zoo Directors identified the issue of financial priorities and the availability of funds as the primary factors in assessing the future of elephants within zoos. They express that elephant programs require a major investment, both capital and operating. If zoos are not willing or able to commit the required level of financial resources for exhibiting and maintaining elephants, they should seriously consider their options for phasing out of elephants. Regardless of a zoo's short- or long-term collection plans with elephants, Zoo Directors indicated a strong willingness to leave their options open as to the future of elephants – citing many external factors that could change in future years.

- **Elimination of elephants from the Toronto Zoo is unlikely to have a major or long term negative impact on attendance, membership and operating revenues:** The data and interview feedback confirm that the vast majority of visitors attend zoos for the overall outdoor, family experience as opposed to attending because of one particular species. There are exceptions of course, such as giant pandas, but it is likely that even pandas could eventually experience diminished appeal if they were constantly at the Zoo, as is the case with other species such as elephants. If the Toronto Zoo were to eliminate its elephant program the negative impact would likely be minor and short-term.

Emerging from the analyses and conclusions in this study are the following two main **options and associated recommendations** associated with investment in expansion of the elephant program in the future at the Toronto Zoo:

- **Option 1: Not waiting for the results of the IMLS elephant management study before proceeding with a fundraising campaign and the start of construction for larger, enhanced elephant facilities:** This assumes that the IMLS study might result in modifications but that the larger facilities and amenities developed by Toronto Zoo staff in collaboration with CLR Design will not change significantly as a result of the study. This is a course of action being pursued by zoos such as Birmingham (Alabama), Cleveland and Denver, among others. We do not recommend this option because it does not recognize the importance of the IMLS study on future elephant management and welfare practices. In addition, this option could lead to potential waste of capital funds. Moreover, with uncertainty regarding the availability of elephants and private and government funds it would be unwise to focus on elephants given other major priorities at the Toronto Zoo.
- **Option 2: Wait for the results of the IMLS elephant management study in late 2013 before finalizing plans or initiating fundraising for larger, enhanced facilities for elephants:** This is because the IMLS study could lead to new standards for elephant management that may affect whether or not the Toronto Zoo has an elephant program and if so it may affect the nature of the elephant facilities and programs to be offered. That is, elephants are already the most costly permanent species from the perspective of capital and operating costs and new standards may make keeping elephants even more cost prohibitive. Investing in facilities before that time may or may not require modifications to the existing CLR Design plan, but the risk does not appear to be worth taking at this time, particularly given other important priorities in the Toronto Zoo Master Plan and uncertain fundraising. Waiting for the completion of the IMLS study allows more time for clarity regarding the availability of elephants and also to assess the effectiveness and efficiency of microhabitats, which were recommended in the CLR study and are being considered for the Toronto Zoo. In this option, the Toronto Zoo would proceed with fundraising for other priorities within its master plan and consider elephants only in 2014. And if a decision is made to continue with elephants once the implications are better understood from the IMLS study, we recommend consideration of offering private funders (expected to generate about half of the revenue for master plan projects) a menu of choices as to where they would like to see their funds directed, including an option of “wherever most needed.” This is common practice, for example in university funding campaigns. This approach would make implementation of a future elephant program contingent not only on the direction established in the comprehensive IMLS study but also on the raising of private funds for it relative to other priorities that may be supported by the private sector. ***We recommend this option for the Toronto Zoo.***

5.2 Existing Elephants

With respect to the three elephants currently residing at the Toronto Zoo, there appear to be four main options associated with them:

- **Option 1: Maintain the existing elephants on site as long as they live and add additional older elephants when one or more of them dies:** Two of the three remaining elephants are age 42 and it is unlikely that both will live the several years required to raise funds, construct the new facilities and bring in new elephants in a future elephant program. If one dies then the number of remaining elephants will be below the minimum recommended number of three that AZA/CAZA has identified in its current standard. Although there are zoos with one or two remaining elephants, the Toronto Zoo prides itself on meeting or exceeding animal management standards and will either need to relocate its elephants or bring in additional elephants. Maintaining only one or two elephants would be inconsistent with the mission and practices of the Toronto Zoo while adding others would not be appropriate given recognition of the limitations of existing facilities and the reality that the available elephants will be aging as well. *This option is not recommended.*
- **Option 2: Relocate the existing elephants and bring them back to the Toronto Zoo after construction of new facilities:** The Cleveland Zoo sent its three elephants to the Columbus Zoo while enhanced facilities were being constructed then brought them back. This is not practical if the Toronto Zoo is to await the findings of the comprehensive IMLS study and the time to fundraise for and construct new facilities. The current elephant herd will be several years older at that time, increasing the health risks associated with their transportation back to Toronto. *This option is not recommended.*
- **Option 3: Relocate the remaining elephants when one of the three dies:** As stated, the death of one of the elephants will take the number below the three that AZA/CAZA has identified as the minimum recommended number. This scenario assumes that the remaining two elephants will still be in good health and capable of being transported to another AZA or CAZA approved facility. However, given uncertainty regarding the longevity of the existing elephants this option has an element of risk that could place the Toronto Zoo in the same position as the Edmonton Zoo. That is, the Edmonton Zoo has only one elephant and has not relocated her because of health factors. Noteworthy is that the Edmonton Zoo did relocate an elephant, Samantha, to a zoo in North Carolina, confirming its willingness to relocate a healthy but not an unhealthy elephant. *Although this option is more tenable than the first two it is not preferred because of uncertainty regarding the health of the remaining elephants for the purposes of relocation when one dies, the time required to train elephants for relocation, and the preference for relocation during warmer weather.*

- **Option 4: Relocate all three remaining elephants while still healthy:**
Hopefully all three elephants will live for many more years. However, with two of the elephants aged 42 relocating all three before one of them dies will increase the likelihood of a healthy relocation. Another factor suggesting this option is that the three remaining elephants were reported by Toronto Zoo staff as long ago as in 2009 to not get along with each other. And while not a primary motivation, relocating all three of the remaining elephants will also allow for redirection of the operating resources currently allocated to elephants to be instead spent on other priorities. And it could allow the existing elephant facilities to be used for other species. Relocation sooner than later is also consistent with feelings expressed by the elephant keepers interviewed that the current facilities, while state of the art/science when originally constructed in 1974 and modified as recently as 1998, are no longer so. *This is the preferred option for the Toronto Zoo and suggests that relocation be to a place with better quality facilities than currently available at the Toronto Zoo.*