

COST BENEFIT ANALYSIS OF ZOO ACCREDITATION

HONORS THESIS

Presented to the Honors Committee of  
Texas State University-San Marcos  
in Partial Fulfillment  
of the Requirements

for Graduation in the Honors College

by

Marissa Renee Hickel

San Marcos, Texas  
May 2015

## COST BENEFIT ANALYSIS OF ZOO ACCREDITATION

Thesis Supervisor:

---

Mr. Michael Dickinson, M.B.A., M.S.  
Honors College

Second Reader:

---

Dr. Joseph Veech, Ph.D.  
Department of Biology

Approved:

---

Heather C. Galloway, Ph.D.  
Dean, Honors College

## INSTITUTIONAL REVIEW BOARD

Based on the information in IRB Exemption Request EXP2014L843225H, this project falls under category 2, and was exempted from full or expedited review by the Texas State Institutional Review Board on 11/21/2014.

## TABLE OF CONTENTS

LIST OF TABLES .....	v
LIST OF FIGURES .....	vi
LIST OF ILLUSTRATIONS .....	vii
LIST OF ABBREVIATIONS .....	viii
ABSTRACT.....	ix
PREFACE .....	x
INTRODUCTION .....	1
CHAPTER 1: UNACCREDITED VS. ACCREDITED.....	1
CHAPTER 2: ASSOCIATION OF ZOOS AND AQUARIUMS .....	4
CHAPTER 3: ZOOLOGICAL ASSOCIATION OF AMERICA .....	7
CHAPTER 4: BENEFITS OF ACCREDITATION .....	9
CHAPTER 5: BECOMING ACCREDITED.....	11
CHAPTER 6: ACCREDITATION COSTS .....	12
CHAPTER 7: ISSUES WITH ACCREDITATION .....	14
DISCUSSION.....	15
CONCLUSION.....	16
APPENDIX.....	18
LITERATURE CITED.....	21

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
TABLE 1. ADMINISTRATIVE COSTS OF ACCREDITATION	13

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
FIGURE 1. U.S. MAP OF AZA ACCREDITED FACILITIES	7
FIGURE 2. U.S. MAP OF ZAA ACCREDITED FACILITIES	9

## LIST OF ILLUSTRATIONS

<b>Illustration</b>	<b>Page</b>
ILLUSTRATION 1. LION AT AUSTIN ZOO AND ANIMAL SANCTUARY	3
ILLUSTRATION 2. LION AT SEDGWICK COUNTY ZOO	3
ILLUSTRATION 3. BLACK BEAR AT CAPITAL OF TEXAS ZOO	4
ILLUSTRATION 4. BLACK BEAR AT OREGON ZOO	4

## **LIST OF ABBREVIATIONS**

1. AWA- Animal Welfare Act
2. AZA- Association of Zoos and Aquariums
3. EAZA- European Association of Zoos and Aquaria
4. ISZ- International Society of Zooculturists
5. USDA- United States Department of Agriculture
6. UZA- United Zoological Association
7. WAZA- World Association of Zoos and Aquariums
8. ZAA- Zoological Association of America

## **ABSTRACT**

This thesis outlines the differences between an unaccredited and accredited zoo, and introduces the two main accreditation organizations here in the United States, Association of Zoos and Aquariums (AZA) and Zoological Association of America (ZAA). It covers both costs and benefits associated with becoming accredited as well as outlining the process it takes to become accredited, along with some issues that some zoos have about accreditation.

## **PREFACE**

Animals have always been my passion, for as long as I can remember I have wanted to be a zookeeper. I grew up close to a zoo, but my animal obsession did not stop at the exit gates. I read about animals, I watched animal shows, and I explored outside, looking for animals. I am the master of animal-based trivia.

When it came time to do my thesis, I could have easily based it off any number of animals. However, I wanted to think outside the box, I knew all about the animals in the zoos already, but what did I know about zoos themselves? I knew the absolute basics of running a zoo, providing food, water, shelter for animals, educating the public about the animals, administrative work. I also knew there were zoos that were accredited and zoos that were not; and the accredited zoos were supposed to be better, but I did not know the reasoning behind it.

Therefore, this thesis was a challenge to myself to learn more about the accreditation side of the zoo as opposed to the animal side. I aimed to discover if it was worth the effort to become accredited, and if it truly made a difference to the animals.

## **INTRODUCTION:**

This thesis will focus on the costs and benefits of a North American zoo becoming accredited for the first time in its history. This thesis will also focus on the similarities and differences between two accrediting boards, the Association of Zoos and Aquariums (AZA) and the Zoological Association of America (ZAA). This thesis is not intended to be used as a guide for a zoo to make its decision to go through with the accreditation process. Rather, it is intended to analyze the factors that are involved with a zoo becoming accredited, and it will analyze two different accreditation institutions. This thesis focuses solely on the zoo side of accreditation, although the aquarium side is similar.

## **CHAPTER 1: UNACCREDITED VS. ACCREDITED**

There are varying levels of what a zoo is and what expectations people have of zoos. Merriam-Webster defines a zoo as simply as “a place where many kinds of animals are kept so that people can see them” (Zoo). AZA’s standards for what qualifies as a zoo are much higher, “a permanent institution which owns and maintains wildlife, under the direction of a professional staff, provides its animals with appropriate care and exhibits them in an aesthetic manner to the public on a regular basis. The institution, division, or section shall further be defined as having as their primary mission the exhibition, conservation, and preservation of the earth’s fauna in an educational and scientific manner” (AZA).

An unaccredited institution has minimal standards levels. They must meet the

standards set into place by the Animal Welfare Act (AWA) of 1966. However, the AWA only covers some species of mammals, does not cover other animal groups, and is often hard to enforce without an investigation of each institution on a regular basis (Lin). The United States Department of Agriculture (USDA) conducts the investigations and inspections. Aside from inspecting zoos, the USDA oversees rural community assistance, conservation, education, and research on agriculture, food and nutrition, and marketing and trade (U.S.). The large diversity in obligations means that the zoo regulations are a bare minimum in terms of animal safety, accounting for the “roadside” zoos and other animal attractions that frequently come with tales of mistreated animals or poor conditions.

Conversely, accredited zoos are held to a higher standard that encompasses all types of animals that are both on and off display. These standards are formulated from analysis of ongoing research such as the best enclosure requirements, techniques to interact with animals, enrichment, and dietary needs. This research-based mechanism helps set standards at levels that provide the utmost safety and overall quality of life for the animals, while retaining the exhibition aspect of the business.

### **Unaccredited vs. Accredited Differences Examples**

#### **Lion Exhibits:**

The pictures below are from two different lion exhibits, the figure on the left was taken by a zookeeper at the Austin zoo and Animal Sanctuary, unaccredited, and is presumably closer to the lion than patrons of the zoo can get. The structure the lion is laying on is made of wood and old firehose, and based on the picture, is of questionable stability. The figure on the right was taken from a viewing bridge for patrons at the

Sedgwick County Zoo, accredited; there is also a glass window for a closer view in what looks like the cave on the right. The enclosure is larger and is closer to a realistic natural representation of their habitat.



Illustration 1. Austin Zoo and Animal Sanctuary, Unaccredited



Illustration 2. Sedgwick County Zoo Accredited, arrow points to a lion

### **American Black Bear Exhibits:**

The pictures below illustrate two different American black bear enclosures. The one on the left was taken at the Capital of Texas zoo, by a zookeeper. This picture shows two black bears cooling off in a provided concrete water trough. The materials of the enclosure appear to be chain link fencing and wood. The picture on the right was taken from a patron viewing area at the Oregon Zoo. Thick layers of glass safely separate patrons from the black bear, while still giving zoo goers an up-close encounter with a potentially dangerous animal. The materials inside the enclosure include natural foliage slopes that imitate the bears' natural habitat. There also appears to be chain link fencing along the back, away from the general public.



Illustration 3. Capital of Texas Zoo,  
Unaccredited



Illustration 4. Oregon Zoo, Accredited

## CHAPTER 2: ASSOCIATION OF ZOOS AND AQUARIUMS

The Association of Zoos and Aquariums is an international organization dedicated to ensuring that zoos and aquariums uphold high standards in all aspects of their businesses (AZA). Denny Lewis, Vice-President of Accreditation Programs, says, “An accreditation credential is *only as good as the standards and the process behind it...* If the accrediting body did not enforce its standards, or did not require reprocessing on a regular basis, its value would be negligible. This is true no matter what the field or profession—but especially so in a field where what is being measured is the ability to provide care to living beings—be they human or animal,” (personal communications, February 13, 2015).

AZA was founded in 1924, and has continued to evolve to meet the needs of both zoos and animals. Their mission states, the Association of Zoos & Aquariums provides

its members with the services, high standards, best practices and program coordination to be leaders in animal welfare, public engagement, and the conservation of species. Their vision, as stated in the 2015-2017 Strategic Plan, is that the Association of Zoos and Aquariums and its members envision a world where, as a result of the work of accredited zoos and aquariums, all people respect, value and conserve wildlife and wild places. Upon evaluation of their mission and vision statements, it is clear that AZA is working to protect all animals, and not just those within their walls.

A zoo that has become AZA accredited must continue to meet the standards put in place. Each zoo that has AZA accreditation must renew the accreditation every five years (AZA), which means a full evaluation of the zoo. The standards are continually improved and updated as new studies and techniques are developed, so a zoo cannot become complacent if it wishes to continue providing their animals the top-level of husbandry available.

The evaluation takes place in two parts, the first is a written record of the evaluation requirements, and the second is an in-person inspection conducted by the Accreditation Commission members (AZA). There is a 93-page handbook of accreditation Standards that must be met, and a 27-page document that must be filled out with detailed information about the zoo, demonstrating that these standards are being followed. Once the written application has been approved, a visiting committee is put together for the in-person portion of the application.

AZA's evaluation process involves a panel of experts. The number and types of animals that the zoo houses, determines the number of experts, with an average of seven. One of the experts must be a veterinarian, chosen by AZA. The specialized experts

evaluate the zoo based on the animals' living environments, social groupings, health, nutrition, and enrichment. They also evaluate the veterinary program, safety policies and procedures, security, facilities, guest services and staff.

The zoo also needs to be involved with conservation, research, and educational programs. Zoos usually collaborate with one or more organizations that are actively working to conserve animals and their habitat. Research can be done on varying levels of involvement. It can be as simple as taking daily records of individuals, to as complex as setting up a captive breeding program for a species. Education is an aspect that happens on many levels each day at the zoo. For some visitors, just being able to experience non-domesticated animals can be educational. There are also plaques with names for most animals. Animals of interest generally have some form of information board so visitors can learn more about their habitat, food, location, etc. There are also educational programs offered by zoos both at the zoo and outreach programs.

Jennifer Dinenna, Manager of Accreditation Programs for AZA, says, “Currently there are 228 accredited members of AZA [worldwide]. That means fewer than 10% of the approximately 2,800 animal exhibitors licensed by the United States Department of Agriculture are AZA accredited,” (personal communications, February 12, 2015). Below, in figure 1, there is a number next to each of the states that corresponds to the number of AZA accredited facilities in the United States. There are three states that do not have any AZA accredited facilities, those are Maine, Wyoming, and Vermont. You’ll also notice that the big tourist states, California, Texas, Florida, and New York were the only states that went into double digits, although there are a few that are not far behind.



Figure 1. Map of the United States of America with the number of AZA accredited facilities next to each state.

### CHAPTER 3: ZOOLOGICAL ASSOCIATION OF AMERICA

The Zoological Association of America also has an accreditation component of its membership. Accreditation is not mandatory for a zoo to be a member; in fact, a zoo must be a corporate member or have an individual on staff that is a professional member prior to becoming accredited (ZAA). The initial accreditation process involves a two-person team examining the zoo's physical facility, one of which must be a veterinarian, although the zoo can choose them, and is usually someone local. The inspection team evaluates the zoo based on security, husbandry and animal care practices, record keeping and health care records, knowledge of animals by personnel, animal diet and nutrition, veterinary care, licensing and permits, and safety plans (ZAA).

In 2003, International Society of Zooculturists (ISZ), whose focus is on animals

only issues, and United Zoological Association (UZA), who concentrated on issues not being addressed by other animal-based organizations, became sister organizations. In February 2005, ISZ and UZA combined to form the Zoological Association of America. Their mission states, ZAA promotes responsible ownership, management, conservation, and propagation of animals in both privately funded and publicly funded facilities through professional standards in husbandry, animal care, safety and ethics.

Board member of ZAA, Alan Sironen, states, “ZAA has 58 accredited facilities worldwide,” (personal communications, March 20, 2015). Below, in figure 2, there is a number next to each state that has a ZAA accredited facility. Due to the higher number of those states without ZAA accredited facilities I chose not to clutter the map with zeroes. Again, the tourist states have a higher amount of ZAA accredited facilities, with the exception of New York, which has none. Ohio has a surprising number of ZAA accredited facilities, but they were also on AZA’s list of states encroaching double digits. Please note that there is a mistake on the map, Alabama has two ZAA accredited facilities, not one.



Figure 2. Map of the United States of America with the number of ZAA accredited facilities next to each state that has at least one ZAA accredited facility.

#### CHAPTER 4: BENEFITS OF ACCREDITATION

An accredited zoo can gain many benefits. “Public confidence that the facility meets or exceeds current professional standards, that the organization is committed to animal welfare, conservation and education, increases eligibility for grants and funding, provides possible exemptions to certain state laws, allows participation in endangered species recovery programs, [and] allows for participation in animal conservation and breeding programs,” (A. Sironen, personal communications, March 20, 2015).

All accreditation allows the public to recognize that the zoo meets the higher standards put into place. The zoo gains benefits from these higher standards e.g., the animals have a longer life expectancy, which cuts back on the costs of replacing animals that die from malnutrition or contamination. In turn however, higher standards of living

add the costs of caring for elderly animals. “Zoos say their conservation mission dictates that residents are there for life -- even if that life is twice as long as expectations in the wild -- and that euthanizing them is done only when the animal is in pain and there is no treatment,” (Grant, 2011).

Becoming accredited can help not only the zoo, but also the city itself. Personal membership at an accredited zoo often includes a discount to other accredited zoos within the same accreditation system. This means that people planning a trip may decide to stay in a town an extra day to visit a nationally recognized zoo, thus increasing tourism to the city. This balance between a geographic area and zoo has yet to be fully explored. “More research is needed to determine the contribution of zoos and captive breeding centres [*sic*] as tourism attraction/destination towards the promotion of conservation ethos and sustainable zoo tourism practice,” (Catibog, 2008). A zoo may wish to contact their local city to see if it would assist with funding if it is not already city run or receiving contributions from the city.

There are also grants and other funding opportunities to help the zoos who have gone through the accreditation process. Zoos, zoological and biological societies, and other related organizations fund them. The grants are put into place to help further captive breeding programs and education, which can further help promote the mission of the Endangered Species Act and other conservation efforts. These funding sources are a large part of what makes these zoos run, “Public AZA-accredited zoos rely on government funding for 47% of their operating budget, on average, says AZA spokesman Steve Feldman,” (Grant, 2011). In addition, some states apply exemptions to certain rules in policies for facilities that are accredited, (A. Sironen, personal communications, March

20, 2015).

## **CHAPTER 5: BECOMING ACCREDITED**

Gaining accreditation is a rigorous process that takes both time and money to complete. It may involve a remodeling of the current exhibits, which can be conducted in incremental stages to help minimize the cost of the transition. The necessary remodeling could include safer materials, enclosure sizes, and suitability of the enclosures for individual species. A zoo may wish to acquire more land or animals; however, this is not necessary in order to obtain accreditation.

The zoo should choose which board's accreditation they are interested in pursuing prior to making changes to the exhibits. A zoo should consider factors such as the current state of their zoo, and the accreditation boards' standards; they should also consider the ideals of the organizations and how those ideals mesh with those that the zoo currently has, and wants for the future.

There are differences in the requirements for accreditation between organizations. For example AZA just has one set perimeter fence height, eight feet, where as ZAA has different perimeter fence height requirements based on the types of animals a zoo houses, Class I - eight feet, Class II - eight feet or six feet with an overhang, Class III - six feet without overhang (see Appendix).

With the choice of accrediting agency in mind, it will be easier on the zoo to go through the requirements listed and make the necessary changes to their exhibits. A zoo should evaluate their progress and start the application process when they believe the necessary changes will be completed within the year in order to avoid wasting money on

applications that would be turned down. The average time it takes zoos to make the necessary changes to meet accreditation standards is about two years.

## **CHAPTER 6: ACCREDITATION COSTS**

In order to become accredited there are several costs involved throughout the process. Table 1 outlines the current administrative costs for both AZA and ZAA accreditation, here is an explanation of the application and examination processes. The first cost that may come up is a mentor; they are available in the AZA accreditation process. The mentor is someone who has been on an accrediting committee before and is aware of what the committee is expecting in terms of meeting the standards. There is no direct fee for this person, and they try to find someone local. However, the zoo is responsible for any fees they may have while evaluating the zoo.

The first obligatory fee is a filing fee that covers the administrative side of going through the necessary paperwork. Depending on the accrediting organization, the process length will vary due to the amount of materials needed to establish you are within standards. Having good records of your facility, animals, and protocols, can help speed up this process.

When the zoo is ready for their inspection, they must put down a deposit. The visiting committee tries to keep their visit under this amount, in which case the zoo would be refunded the remainder of the deposit, but if the committee goes over, the zoo is responsible to pay that amount. After the committee meets and gives its verdict, the zoo has approximately six months to make any changes necessary.

The zoo director then travels to and meets with the accreditation board with proof

of any changes made and the board will decide to accept or reject the accreditation. In the case of AZA they may also table the accreditation for a year, in which case another inspection would take place. This is so that the zoo can have time to make all the necessary changes. Once a zoo has been approved for accreditation, there are yearly dues.

Table 1. Demonstrates the difference in administrative costs of ZAA and AZA accreditation for a five-year cycle.

Object	ZAA	AZA	Obligatory
Filing Fee	\$200	\$1,750	Non-Refundable
Visiting Committee Deposit	\$500	\$1,500	+/- depending on Committee expenses
Mentor	N/A	cover expenses	Highly Recommended
Mid-Cycle Inspections	N/A	\$1,500	If accreditation was tabled 1 year (+/-)
Dues	\$500	\$1,500	Yearly

There are other costs involved with accreditation other than the administrative fees. Redesigning enclosure to be safer, be more engaging for the animal, or use better materials all means spending money. The actual costs involved would depend on the zoos current state and how it matches up to the standards put in to place by the accrediting board. For example, the Detroit Zoo uses four layers of ½ inch thick tempered glass with three layers of DuPont™ SentryGlas® between. "It can take the force of a 2.5-ton truck at 40 miles an hour, which is considerably more than any lion," said Ron Kagan, executive director of the Detroit Zoological Society Executive Director (Laminated).

## CHAPTER 7: ISSUES WITH ACCREDITATION

For some institutions, there are some concerns about whether accreditation was worth the effort involved. Some zoos found that standards were unclear, or they had trouble getting straight answers from the accreditation board on what they need to improve in order to retain accreditation. For example, in 2001, the Topeka Zoo lost their accreditation after a few years of talking with both USDA and AZA. “A memo from Parks and Recreation of Topeka director Rogers Brazier to Arnold last October said the AZA ‘did not identify one adopted standard that can be tied to these concerns.’ ‘The problem with the lack of identification of adopted standards is that our zoo is left trying to guess at what efforts will be sufficient to satisfy the (AZA) commission's somewhat vague concerns,’ Brazier wrote. A request from the city for clarification of the AZA's concerns resulted in an e-mail from the AZA saying no further clarification would be provided” (Hall, 2002).

The AZA has since tried to correct these problems. Their list of standards for each type of exhibit and the zoo in general is outlined in depth on the website, and is accessible to the public (AZA). The ZAA also has their regulations on their website for public access (ZAA). There is some subjectivity in every evaluation, however, so a zoo should ensure they are using their resources to their fullest potential.

Being accredited does not mean that accidents do not happen; these are still wild animals with their natural instincts and that we are human with faults of our own. Many of the reports on the news about incidents that occur at a zoo are due to the fault of humans. The most recent incident occurred at Cleveland Metroparks Zoo, an AZA accredited facility. “Michelle Schwab, 37, dropped the [2 year old] boy April 11 after she

held him over the protective railing at the exhibit, authorities said. The boy suffered a broken leg, according to a court document. Bystanders helped the parents bring the child to safety. The cheetahs did not approach during the rescue effort, according to Metroparks” (Blackwell, 2015).

Occasionally a zookeeper makes a mistake that puts them in danger, one such occurrence happened at the Dallas Zoo, an AZA accredited zoo. “The zookeeper is reportedly in good condition after his shoulder was bitten and he was scratched over the weekend. The zoo says a door was not secure and suddenly the keeper found himself alone with the lioness. He used pepper spray on the animal to get away” (Franklin, 2014). When incidents occur, whether or not anyone was hurt, an investigation of the incident takes place, and actions are taken to see that it does not happen again, in accordance with the AZA policy.

### **DISCUSSION:**

This thesis only compared two accreditation boards; others to look into would be World Association of Zoos and Aquariums (WAZA) and European Association of Zoos and Aquariums (EAZA). Please note that there is another ZAA, Zoo and Aquarium Association, and it is based in Australia.

One of the goals of this thesis that was not met was personal feedback from zoo. Every accredited zoo that made their email available to the public received an email inquiring if they would like to assist with this thesis. No positive responses were received, or in the cases that the initial contact was positive, no information was ever given. I conducted follow-ups with both phone calls and emails and came up empty

handed.

The accrediting organizations were helpful with the information that pertained to them; however, they have a policy against giving out any information about the zoos. This led to difficulties in the costs section of the paper, outside of administrative costs, and the benefits section in quantifying the benefits.

I also struggled to find reliable, independent sources for my information, any studies I found on accreditation were provided by AZA themselves. The other resources I found often times used incorrect explanations of the acronyms or had other obvious mistakes.

### **CONCLUSION:**

It is clear that the accreditation standards are beneficial for the animals; however, a zoo does not have to be accredited to meet those standards. Being accredited introduces a zoo to further connections and resources than they could receive if they were to remain unaccredited. The Association of Zoos and Aquariums and the Zoological Association of America are both credible accreditation systems. The ZAA has a lower, more feasible set of standards and lower cost requirements for the inspection and dues. AZA has a more stringent set of rules and more rigorous inspection process, but comes with higher name recognition. Those wishing to become accredited for the first time may wish to become ZAA accredited and build upon those guidelines later if they desire to become AZA accredited. It is also important to note that accreditation is not mutually exclusive for the two organizations. For example, in Texas, both the Fort Worth Zoo and the Fossil Rim Wildlife Center are accredited by AZA and ZAA, receiving the benefits from both

organizations.

## **APPENDIX**

### **AZA Accreditation Standards and Related Policies**

#### 11.8. Perimeter Fence

11.8.1. Perimeter fencing must be separate from all exhibit fencing or other enclosures, and be of good quality and construction. All facilities must be enclosed by a perimeter fence that is at least 8' in height or by a viable barrier. The fence must be constructed so that it protects the animals in the facility by restricting animals outside the facility and unauthorized persons from going through it or under it and having contact with the animals in the facility, and so that it can function as a secondary containment system for the animals in the facility.

Explanation: There are rare instances where the terrain surrounding the facility provides a viable barrier. The Accreditation Commission will determine what constitutes a “viable barrier” and must approve a waiver. However, most facilities must be enclosed by a perimeter fence. Facilities located in rural areas and which are PPEQ-approved must meet special USDA standards for fencing. Institutions which are entirely enclosed within a building may be exempt from this requirement.

### **ZAA Animal Care and Enclosure Standards and Related Policies**

#### II. Facility Requirements:

##### 1. Facility requirements for Class I animals:

a. The facility shall not be constructed on less than five (5) contiguous acres of property owned or leased by the applicant. If leased, the lease shall be for a term of not less than 5 years from the date of application. Such lease is subject

to initial and annual review and approval by ZAA.

b. The facility shall have a perimeter boundary, including access points, to be designed, constructed, and maintained to discourage unauthorized entry and so far as reasonably practical, as an aid to the confinement of all animals within the perimeter of the institution. The perimeter boundary cannot also act as animal exhibit barrier and must be located at least 3 feet from the primary enclosure.

c. The facility shall be bounded by a fence of not less than eight (8) feet in height, constructed of not less than 11 1/2 gauge chain link, or equivalent, to prevent escape from the property of any wildlife that may escape the primary caging.

## 2. Facility requirements for Class II animals:

a. The facility shall not be constructed on less than two and one-half (2 ½) contiguous acres of property owned or leased by the applicant. If leased, the lease shall be for a term of not less than 5 years from the date of application. Such lease is subject to initial and annual review and approval by ZAA.

b. The facility shall have a perimeter boundary, including access points, to be designed, constructed, and maintained to discourage unauthorized entry and so far as reasonably practical, as an aid to the confinement of all animals within the perimeter of the institution. The perimeter boundary cannot also act as animal exhibit barrier and must be located at least 3 feet from the primary enclosure.

c. The facility shall be bounded by a fence of not less than eight (8) feet in height, constructed of not less than 11 1/2 gauge chain link, or equivalent, or, as an alternative, a fence of not less than six (6) feet in height, with a 2-foot, 45

degree, inward angle overhang. The inward angle fencing and vertical fencing shall be constructed of 11 1/2 gauge chain link or equivalent. This fencing is to prevent escape from the property of any wildlife that may escape from primary caging.

3. Facilities maintaining Class III wildlife only:

a. Facility shall meet same requirements as Class II facilities except that the perimeter fence may be 6 foot high with no overhang.

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